

Readiness in Technical Base and Facilities

Funding Schedule by Activity

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
Readiness in Technical Base and Facilities					
Operations of Facilities	995,602	1,021,715	1,017,557	- 4,158	- 0.4%
Program Readiness ^{a,b}	129,158	115,754	106,204	- 9,550	- 8.3%
Special Projects ^b	38,791	41,274	20,534	- 20,740	- 50.2%
Material Recycle and Recovery	93,132	75,740	86,965	+ 11,225	+ 14.8%
Containers	20,655	15,915	17,910	+ 1,995	+ 12.5%
Storage	12,534	11,298	18,982	+ 7,684	+ 68.0%
Subtotal, Operations & Maintenance	1,289,872	1,281,696	1,268,152	-13,544	-1.1%
Construction	191,000	258,949	206,302	- 52,647	- 20.3%
Total, Readiness in Technical Base and Facilities.....	1,480,872	1,540,645	1,474,454	-66,191	- 4.3%

^a Beginning in FY 2005, efforts related to maintaining the readiness of the Nevada Test Site to conduct underground nuclear tests, if directed, have been moved from the Readiness in Technical Base and Facilities Program Readiness activity to the Primary Technologies component of the Science Campaign (\$30,000,000 in FY 2005). FY 2003 and FY 2004 comparability adjustments are \$17,940,000 and \$24,744,000 respectively.

^b Beginning in FY 2005, Criticality Safety will shift from Special Projects to Program Readiness within the Readiness in Technical Base and Facilities program (\$10,626,000 in FY 2005). FY 2003 and FY 2004 comparability adjustments are \$9,271,000 and \$10,122,000 respectively.

^c Nuclear Weapons Incident Response (NWIR) formerly funded under RTBF is being proposed in FY 2005 as a separate control line. Funds transferred from RTBF are \$81,114,000 in FY 2003, \$89,167,000 in FY 2004, and \$99,209,000 in FY 2005.

Weapons Activities/

Readiness in Technical Base and Facilities

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FYNSP Schedule

(dollars in thousands)

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FYNSP Total
Readiness in Technical Base and Facilities						
Operations of Facilities...	1,017,557	1,058,844	1,119,410	1,125,421	1,178,799	5,500,031
Program Readiness.....	106,204	111,067	108,285	113,225	117,399	556,180
Special Projects.....	20,534	21,326	22,065	23,266	23,933	111,124
Material Recycle and Recovery.....	86,965	73,333	86,708	98,873	102,374	448,253
Containers.....	17,910	16,117	16,688	19,091	17,772	87,578
Storage.....	18,982	17,462	18,020	20,922	21,493	96,879
Construction.....	206,302	304,073	382,041	438,468	453,984	1,784,868
Total, Readiness in Technical Base and Facilities	1,474,454	1,602,222	1,753,217	1,839,266	1,915,754	8,584,913

Description

The Readiness in Technical Base and Facilities (RTBF) Program operates and maintains National Nuclear Security Administration (NNSA) program facilities in a safe, secure, efficient, reliable and compliant condition so that they are operationally ready to execute nuclear weapons stockpile stewardship tasks on-time as identified by the Directed Stockpile Work and Campaign programs. This includes program contractor facility operating costs (e.g. utilities, equipment, facility personnel, training, and salaries); facility and equipment maintenance costs (staff, tools, and replacement parts); environmental, safety, and health costs; the capability to recover and recycle plutonium, highly-enriched uranium, and tritium to support a safe and reliable nuclear stockpile; specialized storage containers sufficient to support the requirements of the nuclear weapons stockpile; and the design and construction of facilities which support the nuclear weapons complex. To accomplish this mission, the NNSA must reverse the deterioration of its nuclear weapons infrastructure, restore lost production capabilities, and modernize selected facilities in order to conduct scheduled refurbishments.

In addition, the NNSA must become more responsive to current and future national security challenges. This includes revitalizing the nuclear weapons infrastructure. As highlighted by the Nuclear Posture Review, a highly responsive infrastructure itself can become part of a credible deterrent to our adversaries. RTBF plays a central role in this effort and must continue to invest in improving the efficiency of the NNSA facilities and the strengthening of the technical base.

The RTBF Program works in close partnership with the FIRP to assure the facilities and infrastructure of the nuclear weapons complex are restored and thereafter maintained in appropriate condition to support the mission. RTBF provides funding for maintenance of the complex and making capital investments to sustain the complex into the future. These efforts focus on ensuring that facilities necessary for immediate programmatic workload activities are maintained sufficiently to support that workload. FIRP addresses the additional sustained investments above the RTBF base for deferred maintenance and infrastructure that are needed to extend facility lifetimes, reduce the risk of unplanned system and equipment failures, increase operational efficiency and effectiveness, and allow for Recapitalization of aging facility systems. FIRP also manages utility line items to further reduce the deferred maintenance backlog and disposes of excess facilities that have been deactivated. As discussed elsewhere in the budget, FIRP is a capital renewal and sustainability program that was established principally to reduce the large backlog of deferred maintenance, which had developed during the 1990s to an appropriate level consistent with industry best practices. FIRP supports this goal by developing corporate facility management practices required to properly maintain the complex and also provides additional funding dedicated to reducing deferred maintenance, recapitalizing the infrastructure, and reducing the maintenance base by eliminating excess real property. RTBF provides funding for maintenance of the complex and making capital investments to sustain the complex into the future. FIRP is scheduled to be complete in 2011. Between now and the time FIRP is completed, the NNSA must institutionalize responsible and accountable facility management practices and provide funding levels needed to sustain the complex at industry standard best practice levels or better. Although not yet quantified, it is anticipated that RTBF funding levels for maintenance, capital renewal, and disposition of excess real property will need to increase from present levels.

Benefits to Program Goal 01.34.00.00 Readiness in Technical Base and Facilities (Operations)

Within the Readiness in Technical Base and Facilities (RTBF) program, six subprograms each make unique contributions to Program Goal 01.34.00.00. Operations of Facilities operates and maintains "NNSA-owned" programmatic capabilities in a state of readiness, ensuring each capability (workforce

and facility) is operationally ready to execute programmatic tasks identified in Campaigns and Directed Stockpile Work (DSW). Program Readiness supports selected activities that support more than one facility, Campaign, or Directed Stockpile Work (DSW) activity, and are essential to achieving the objectives of the Stockpile Stewardship Program. Special Projects provides for activities that require special control or visibility, or do not fit easily into other budget categories, including landlord cost associated with conveyance and transfer of land at LANL to the County of Los Alamos and San Ildefonso Pueblo. In addition, Special Projects supports pension liabilities, special access programs, systems engineering support, information system upgrades, and engineering and technical support for RTBF activities. Material Recycle and Recover is responsible for the recycle and recovery of plutonium, enriched uranium, and tritium from fabrication and assembly operations, limited life components, and dismantlement of weapons and components. Containers responds to the need of the nuclear weapons complex by providing directive approved containerization research and development, design, certification, re-certification, test and evaluation, production and procurement, fielding and maintenance, and decontamination and disposal, and off-site transportation authorization of nuclear materials and components transportation containers. Storage provides effective storage and management of national security and surplus pits, highly enriched uranium (HEU), and other weapons and nuclear materials in compliance with DOE/NNSA requirements.

Program Assessment Rating Tool (PART)

The Office of Management and Budget (OMB) used PART to review this program for the FY2005 budget. NNSA received a final rating of 75% for Readiness in Technical Base and Facilities, Operation of Facilities, which is Moderately Effective on the OMB rating scale. OMB found that the program has recently developed long-term performance goals against which it can measure its success. OMB concluded that the program does not yet have an established track record against those goals that would support a rating higher than "moderately effective." In response to these recommendations, NNSA management is actively monitoring performance against goals and targets through the PPBE process.

Congressional Interest

Consistent with Section 3114 of the Conference Report accompanying the National Defense Authorization Act for FY 2004, P.L. 108-136, below are definitions by functional category and the statement of amounts requested in FY 2005.

Functional Category Definitions:

Maintenance - includes costs associated with maintenance activities that are required to sustain property, plant, and equipment in a condition suitable for it to be used for its designated purpose. Maintenance activities include, Preventive Maintenance, Predictive Maintenance, Corrective Maintenance, Maintenance Management, and General Maintenance.

Facilities Management and Support - includes costs associated with facilities and their ability to function effectively, such as plant and maintenance engineering, facilities utilization analysis, modification and upgrade analysis, facilities planning and condition determinations, and rental of buildings/land. Does not include construction and maintenance costs.

Utilities - includes utility-related engineering associated with labor, operating plants and equipment, contract services for fuel, water treatment chemicals, or support needed to provide electric power, heat, steam, chilled water, portable water, process gases, and sanitary waste disposal to support business and research. This element includes all costs associated with contract services in support of utilities, such as **Weapons Activities/**

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fuel, water treatment chemicals, and control systems (also includes energy management related activities). Utilities include, Central Steam Facility, Central Chilled Water Facility, Water Supply System, Sanitary Waste Disposal System, and Electrical Power.

Environment, Safety and Health - includes environmental costs associated with the development, implementation, and maintenance of effluent controls, environmental monitoring, and surveillance, permitting, auditing and evaluation to assure environmental compliance, and pollution prevention. These activities, performed on a routine basis, are necessary to maintain compliance with federal, state, and local regulations, as well as applicable DOE Orders and directives. Includes safety and health costs associated with safety and health programs, such as preparation of work authorizations, emergency preparedness, fire protection, industrial hygiene, industrial safety, occupational medical services, nuclear safety, work smart programs, radiation protection, transportation safety, and management oversight.

Other Project Cost (OPC) - includes costs related to a project that is not represented in the Total Estimated Cost (TEC). OPC activities include, but are not limited to project activities such as Conceptual Design Plans and reports, Project Execution Plans, NEPA documentation, construction project data sheets, maintenance procedures (to support facility startup), initial operator training, commissioning costs, operational readiness reviews and documentation, and operating procedures (to support facility startup).

Demolition, Decontamination, Deactivation and Decommissioning of Excess Facilities - includes the deactivation cost planned for decontamination and disposition of excess DOE weapons production facilities, equipment and land. Included are costs associated with preparing a facility for: 1) transition to the Environmental Management Program as required in the Life Cycle Assets Management Directive, and, 2) surveillance and maintenance of those facilities (required to maintain the facility in a safe condition). These costs should be identifiable for both contaminated and non-contaminated facilities. Also included, are costs associated with the development of technology for the reclamation of buildings, equipment and land, so that they may be used for other purposes.

Capital Equipment - includes equipment that is not purchased as part of a line item project or is not attributed to a specific weapon production program

General Plant Projects (GPP) - includes construction projects that are neither line item projects or attributed to a specific weapon production program. Includes miscellaneous minor new construction projects of a general nature, the total estimated cost of which may not exceed the statutory limit of \$5 million.

Expense Funded Projects (EFP) - includes construction and rearrangement projects paid for with expense funds and are not attributed to a specific weapon production program. Examples of project activities funded with operating dollars include normal maintenance and repair, such as painting, cleaning, and small repair jobs not resulting in an addition, replacement of a retirement unit, or a betterment.

These categories do not represent the official budget or accounting structure for the Operations of Facilities activities. As such, the data was developed by cross walking the NNSA sites operations of facilities costs, funded in Weapons Activities, into categories consistent with the definitions above.

FY 2005 RTBF Operations of Facilities
(dollars in thousands)

Maintenance.....	196,694
Facilities Management & Support.....	445,944
Utilities.....	64,989
Environment, Safety & Health.....	174,280
Other Project Costs.....	27,047
Demolition, Disposal or Transfer of Excess Facilities.....	6,425
Capital Equipment (CE).....	21,668
General Plant Projects (GPP).....	19,303
Expense Funded Projects (EFP).....	61,207
Total, Operations of Facilities.....	<u>1,017,557</u>

Annual Performance Results and Targets

FY 2000 Results	FY 2001 Results	FY 2002 Results	FY 2003 Targets
Ensure that all facilities required for successful achievement of the Stockpile Stewardship Program remain operational. (BELOW EXPECTATIONS: Operations at LANL were severely impacted by the Plutonium intake accident and the Cerro Grande fire at LANL.)	Complete the milestones listed in the corrective action plan for the Departmental challenge of managing physical assets.	Meet established facility operating plans and construction schedules to ensure the physical infrastructure and facilities are operational, safe, secure, and compliant, and that a defined state of readiness is sustained at all needed facilities. This includes addressing safety issues to allow restart of the Y-12 enriched uranium reduction process. (MET GOAL)	Meet established facility operating plans and construction schedules to ensure the physical infrastructure and facilities are operational, safe, secure, and compliant, and that a defined state of readiness is sustained at all needed facilities. (MET GOAL)

Meet the established schedules for downsizing and modernizing our production facilities.
(MIXED RESULTS)

Annual Performance Results and Targets

Performance Indicators	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Endpoint Target Date
Annual percentage of scheduled days that mission-essential facilities are available (EFFICIENCY MEASURE)	Mission-essential facilities were available 96.5% vs. > 90%	Mission-essential facilities are available >90%.	Mission-essential facilities are available >90%.	Mission-essential facilities are available >90%	Mission-essential facilities are available >90%.	Mission-essential facilities are available >90%.	Mission-essential facilities are available >90%.	Ongoing
Number of Reportable Accidents/200,000 hours of work [vs., Bureau of Labor Statistics (BLS) national standard] (EFFICIENCY MEASURE)	Reportable accidents were 2.2 per 200,000 work hours	Reportable accidents are <6.4 per 200,000 work hours.	Reportable accidents are <6.4 per 200,000 work hours.	Reportable accidents are <6.4 per 200,000 work hours.	Reportable accidents are <6.4 per 200,000 work hours.	Reportable accidents are <6.4 per 200,000 work hours.	Reportable accidents are <6.4 per 200,000 work hours.	Ongoing
Annual NNSA complex-wide aggregate Facility Condition Index (FCI), deferred maintenance costs per replacement plant value, for all mission-essential facilities and infrastructure (the industry standard is below 5%) (EFFICIENCY MEASURE)	N/A	Achieve FCI < 10%.	Achieve FCI < 9%	Achieve FCI < 8%	Achieve FCI < 7%	Achieve FCI < 6%	Achieve FCI < 5%	FCI < 5% FY 2009 (Current Target)

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Benefits to Program Goal 01.35.00.00 Readiness in Technical Base and Facilities (Construction)

The RTBF program is composed of independent projects that are created to address specific needs. Each line item gets independently reviewed and funded by Congress based on the mission need identified in the Construction Project Data Sheet submitted to Congress. Currently the RTBF Construction program is comprised of the following 31 independent construction projects: 05-D-140, Project Engineering & Design, VL; 05-D-401, Bldg 12-64 Upgrade, PX; 05-D-402, Beryllium Capability Project, Y-12; 04-D-101, Test Capabilities Revitalization, Phase I, SNL; 04-D-102, Exterior Communications Infrastructure Modernization, SNL; 04-D-103, Project Engineering and Design, VL; 04-D-125, Chemistry and Metallurgy Research (CMR) Facility Replacement, LANL; 04-D-126, Building 12-44 Production Cells Upgrade, PX; 04-D-127, Capability for Advanced Loading Missions (CALM), SRS; 04-D-128, TA-18 Mission Relocation Project, LANL; 03-D-102, National Security Sciences Bldg (LANL Administration Building – 04-D-104), LANL; 03-D-103, Project Engineering and Design, VL; 03-D-121, Gas Transfer Capacity Expansion, KC; 03-D-122, Purification Facility, Y-12; 03-D-123, SNM Component Requalification Facility, PX; 02-D-103, Project Engineering and Design, VL; 02-D-105, Engineering Technology Complex Upgrade, LLNL; 02-D-107, Electrical Power Systems Safety, Communications and Bus Upg., NV; 01-D-103, Project Engineering and Design, VL; 01-D-107, Atlas Relocation to the Nevada Test Site, NV; 01-D-124, Highly Enriched Uranium Materials Facility, Y-12; 01-D-126, Weapons Evaluation Test Laboratory, SNL; 01-D-800, Sensitive Compartmented Information Facility, LLNL; 99-D-103, Isotope Sciences Facility, LLNL; 99-D-104, Protection of Real Property (Roof Reconstruction, PH II), LLNL; 99-D-125, Replace Boilers and Controls, KC; 99-D-127, SMRI-Kansas City Plant, KC; 99-D-128, SMRI-Pantex Plant, PX; 98-D-123, SMRI-Tritium Facility Modernization and Consolidation, SR; 96-D-102, Stockpile Stewardship Facility Revitalization, Phase VI, VL; and 88-D-122, Facilities Capability Assurance Programs, VL.

Annual Performance Results and Targets

FY 2000 Results	FY 2001 Results	FY 2002 Results	FY 2003 Targets
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There were no related targets.

There were no related targets.

There were no related targets.

There were no related targets.

Annual Performance Results and Targets

Performance Indicators	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Endpoint Target Date
Number of projects initiating designs/attaining Critical Decision (CD)-1] or cancelled for cause	Initiated design (CD-1) on 2 projects.	Initiate design (CD-1) on, or cancel for cause, 11 projects.	Initiate design (CD-1) on, or cancel for cause, 5 projects.	Initiate design (CD-1) on, or cancel for cause, 4 projects.	Initiate design (CD-1) on, or cancel for cause, 3 projects.	Initiate design (CD-1) on, or cancel for cause, TBD projects.	Initiate design (CD-1) on, or cancel for cause, TBD projects.	Ongoing
Number of projects initiating construction/attaining CD-3, or cancelled for cause	Initiated construction (CD-3) on 3 projects.	Initiate construction (CD-3) on, or cancel for cause, 8 projects.	Initiate construction (CD-3) on, or cancel for cause, 3 projects.	Initiate construction (CD-3) on, or cancel for cause, 7 projects.	Initiate construction (CD-3) on, or cancel for cause, 5 projects.	Initiate construction (CD-3) on, or cancel for cause, 5 projects.	Initiate construction (CD-3) on, or cancel for cause, 2 projects.	Ongoing
Number of construction projects completed/attained CD-4 within approved scope, cost, and schedule baselines (EFFICIENCY MEASURE)	Completed construction (CD-4) on 3 projects.	Complete construction (CD-4) on 9 projects.	Complete construction (CD-4) on 5 projects.	Complete construction (CD-4) on 5 projects.	Complete construction (CD-4) on 4 projects.	Complete construction (CD-4) on 2 projects.	Complete construction (CD-4) on TBD projects.	Ongoing

Detailed Justification

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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Operations of Facilities.....	995,602	1,021,715	1,017,557
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Operates and maintains "NNSA-owned" programmatic capabilities in a state of readiness, ensuring each capability (workforce and facility) is operationally ready to execute programmatic tasks identified in Campaigns and Directed Stockpile Work (DSW). Operates the program infrastructure and facilities in a safe, secure, reliable, and "ready for operations" manner. Facility-specific activities include, but are not limited to, maintenance; utilities; environment, safety and health; implementation plan actions to address some of the Defense Nuclear Facilities Safety Board (DNFSB) recommendations, and implementation of rules (such as the new Safety Bases Rule 10CFR830, Nuclear Safety Management); and maintenance of the authorization basis (AB) documentation for each facility. Infrastructure support activities include facility-related costs which are not associated with the ongoing operations of facilities such as conceptual design reports, other project related costs for line items, National Environmental Policy Act (NEPA) activities, institutional capital equipment and general plant projects; Stockpile Management Restructuring Initiative which includes operating support costs related to production facility downsizing such as component rebuilds, process transfer/downsizing, qualification and process prove-in, and facility shutdown; and facility startup/standby/Decommissioning & Decontamination (D&D) which includes costs associated with maintaining facilities in a standby status for possible further use, or decontaminating and decommissioning.

Maintains current and future operations with smaller workforce, growing maintenance needs, and increasing regulatory requirements. Provides new and upgraded facilities and capabilities. Seeks cost efficiencies through the consolidation of facilities and functions. Develops an integrated maintenance program that includes elements of RTBF Operations of Facilities for routine maintenance and the Facilities and Infrastructure Recapitalization Program for backlog reduction and extraordinary maintenance items that are impacting cost and performance.

▪ Kansas City Plant.....	92,889	103,445	101,775
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Operation of the Kansas City Plant provides infrastructure support to manufacturing and engineering activities for a broad array of DSW weapons programs, and technology development and deployment activities in Engineering and Readiness campaigns.

▪ Lawrence Livermore National Laboratory	54,468	41,939	54,765
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Funds activities at LLNL including, but not limited to building and building system maintenance; utilities; maintenance of programmatic equipment; environment, safety and health; implementation plan actions addressing the Defense Nuclear Facilities Safety Board (DNFSB) recommendations; implementation of rules (such as the new Safety Bases Rule 10CFR830, Nuclear Safety Management); infrastructure support; and Other Project Costs (OPCs) for RTBF line item construction projects. Facilities include the Nuclear Materials Technology Program (NMTP) facilities (Superblock); the hydrotest bunkers and engineering test facilities at Site 300; the Linear

Accelerator (LINAC) (B194) and light gas guns (B341); the High Explosive Applications Facility (HEAF); and Management & Operating activities at the Nevada Test Site.

Weapons Activities/

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(dollars in thousands)

	FY 2003	FY 2004	FY 2005
▪ Los Alamos National Laboratory	300,999	314,107	318,913
Funds warm standby work including, conventional facility management, infrastructure and utilities, as well as operation & maintenance of special equipment. This activity also includes: infrastructure support, other project costs (OPCs), General Plant Project (GPP) Construction, Monitoring Wells, Beryllium Rule, and Program Management. Facilities directly supported include: Engineering, Tritium, Dynamic Experimentation, Los Alamos Neutron Science Center (LANSCE), Waste Management, Nuclear Materials Technology (TA-55), the Chemical Metallurgy Research Facility (CMR), Beryllium Technology, Nuclear Materials Storage, and Critical Experiments Facility (TA-18).			
▪ Nevada Test Site	86,496	88,964	70,180
Funds NTS key facility activities including, sub-critical experiments at U1a, dynamic materials property experiments at Joint Actinide Shock Physics Experimental Research (JASPER) Facility, nuclear material handling and weapons incident response at the Device Assembly Facility (DAF), and pulsed power experiments at Atlas. Specific facilities supported include the Device Assembly Facility (DAF); U1a Complex; Joint Actinide Shock Physics Experimental Research Facility (JASPER), Control Point Complex, Atlas, High Explosive Facility, Bechtel Nevada Los Alamos Technical Facility, Bechtel Nevada Livermore Technical Facility, and the North Las Vegas Complex.			
▪ Pantex Plant	114,996	98,190	97,741
Operations of Facilities includes the cost of all structures, equipment, systems, materials, procedures and facility support personnel necessary to provide program sponsors with a facility that is safe, secure, reliable and “ready for operations.” This includes support services related to the conduct of safe facility or activity operations, such as maintenance workers, radiological control technicians, general engineering support staff, environment, safety and health professionals, and other workers conducting facility readiness activities.			
▪ Sandia National Laboratories	146,928	151,072	150,710
Operates the Defense Program-critical programmatic capabilities and associated facilities in warm standby mode. Provides the staff required to keep the capability operational. The capabilities and associated facilities include: Tech Area III Full Scale Test, Microelectronics Development Laboratory, Compound Semi-conductor Laboratory, Experimental Aerodynamics (Wind Tunnel), Tech Area IV Accelerators, Tech Area V Reactors, Tonopah Test Range, Z Accelerator (Z) single shift operations and Z refurbishment, Nanosciences Laboratories, Electromagnetic Test Facilities, Process and Environmental Test Laboratories, California Environmental Test Facilities, Albuquerque Environmental Test Facilities, Neutron Generator Production Facility, and Primary Standards Laboratory.			
▪ Savannah River Site	83,192	78,016	95,173

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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Operations of Facilities include facilities management and support activities that maintain the facilities and infrastructure in a state of readiness for mission operations. Preventive, predictive, and corrective maintenance of process and infrastructure equipment/facilities is performed.

Environmental, safety, and health activities are conducted to ensure the well being of SRS workers, the public, and the environment. Contracted costs of providing utilities to the Tritium Facility are included, as well as Other Project Costs associated with RTBF line item projects. Capital equipment and general plant projects that meet base maintenance and infrastructure needs are planned and executed to maintain safety.

▪ **Y-12 National Security Complex..... 109,021 117,625 98,194**

Provides operational and maintenance costs for the following “mission essential” buildings: 9201-1, 9201-5, 9201-5N, 9202, 9204-2, 9204-2E, 9204-4, 9206, 9212, 9215, 9720-5, 9995, and 9998.

Includes activities required for continuous operations of each building and specific upgrade projects related to non-routine repairs, maintenance or alteration of the facility and facility systems. Also includes specific environment, safety and health activities such as development of new authorization basis documentation, and implementation of the Fire Protection Program Comprehensive Corrective Action Plan, as well as OPCs for construction line items.

▪ **Institutional Site Support 6,613 28,357 30,106**

Supports prioritized activities across the nuclear weapons complex: DNFSB activities for materials such as inactive actinides, \$6.0 million; corporate initiatives that support activities that include occurrence reporting systems and quality assurance working groups, \$8.0 million; the TA-18 line item OPCs, \$5.0 million; and other unforeseen issues that affect site operations for activities that include monitoring wells, TRU waste acceleration, general plant projects, capital equipment, and other institutional costs, \$11.1 million.

Program Readiness..... 129,158 115,754 106,204

Supports selected activities that support more than one facility, Campaign, or Directed Stockpile Work (DSW) activity, and are essential to achieving the objectives of the Stockpile Stewardship Program. Ongoing activities include: manufacturing process capabilities required to support the stockpile, critical skill needs, and pulsed power science and technology.

Nevada Site readiness activities include logistical support for laboratory staff permanently located in Nevada, including facilities, equipment, and administrative and technical support. Efforts related to offsite monitoring, weather, cultural resources, hydrology and geology are also supported. Legacy compliance for environmental issues that resulted from years of nuclear testing activities in Nevada are addressed as well as regulatory requirements and efforts to avoid potential compliance orders. The Federal Facility Agreement and Consent Order and the Legacy Rehabilitation projects continue to be supported in FY 2005, along with historical archiving and seismic monitoring activities. The Borehole Management Program will continue to close the remaining unutilized NTS legacy boreholes at a closure rate of approximately 60 boreholes per fiscal year. The NTS Equipment Revitalization Program will continue to replace and modernize NTS equipment that is obsolete.

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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Pulsed Power Sciences, Microsystems, and Other Technical Support activities provide the infrastructure readiness required to support activities directly related to the construction or tooling necessary for the successful deployment of microsystems in nuclear weapons; maintain the capabilities to design and improve pulsed power machines in support of Inertial Confinement Fusion, weapon physics and weapon effects; and support defense nuclear materials stewardship to research, develop, test, and evaluate advanced technologies for material management systems to enhance the safety, security, and accountability of nuclear weapons and materials during storage, handling, and transportation.

This activity supports the hiring of individuals with the critical skills needed to sustain production and engineering capabilities in support of Directed Stockpile Work at three primary production sites without a major source for these skills. In FY 2005, personnel would perform technical apprenticeships, and knowledge preservation and development projects.

Beginning in FY 2005, support for the conduct of Nuclear Criticality Safety Program (NCSP) in support of DNFSB Recommendation 97-2 is funded at \$10.6 million in Program Readiness instead of Special Projects to align the work being performed to the appropriate program activity. In FY 2005, the criticality safety program reflects the NNSA's designation as the Department of Energy's criticality program manager. Previously, multiple program sponsors funded this infrastructure program. The NCSP maintains nuclear criticality skills and technical capability necessary to support all operational criticality safety programs in the Department's nuclear facilities.

Beginning in FY 2005, Test Readiness will be funded in the Science Campaign under Primary Assessment Technologies at \$30.0 million in the request.

Special Projects	38,791	41,274	20,534
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Special Projects provides for activities that require special control or visibility, or do not fit easily into other budget categories, including support of \$3.95 million for Landlord costs associated with conveyance and transfer of land at LANL to the County of Los Alamos and San Ildefonso Pueblo, as directed by P.L. 105-119; and other support of \$7.55 million for pension liabilities, special access programs, systems engineering support, and information system upgrades. Also provides \$9.03 million for engineering and technical support for RTBF activities including independent and internal reviews, condition assessment surveys, and independent cost estimating requirements.

Material Recycle and Recovery	93,132	75,740	86,965
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(dollars in thousands)

FY 2003	FY 2004	FY 2005
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The Material Recycle and Recovery activity provides for the recycle and recovery of plutonium, enriched uranium, and tritium from fabrication and assembly operations, limited life components, and dismantlement of weapons and components. It supports the implementation of new processes or improvements to existing processes for fabrication and recovery operations and for material stabilization, conversion, and storage. It supports the process of recycling and purifying the above materials to meet specifications for safe, secure, and environmentally acceptable storage, including meeting the directive schedule for tritium reservoir refills.

The RTBF Material Recycle and Recovery activity includes the response to Defense Nuclear Facilities Safety Board (DNFSB) Recommendations 94-1, 97-1, and 2000-1; uranium stabilization/decontamination/repackaging; nuclear materials information management; a small amount of generic criticality safety support, and nuclear materials planning and reporting. Materials Recycle and Recovery is principally accomplished at the Y-12 National Security Complex (Y-12), Los Alamos National Laboratory (LANL), and Savannah River Site (SRS) Tritium Facility.

At Y-12, Materials Recycle and Recovery includes the following major activities: Head End Processing, Purification and Conversion to UO₃, Acid Removal and Waste processing, Conversion of Enriched Uranium Oxide to Metal Buttons, Material Transport and Storage, Processing Enriched Uranium Chips and Scraps, Chemical Conversion of Lithium, and Salvage Operations and Filter Teardown. All of these activities are required to provide materials needed for Stockpile Management and to assure safe and secure handling of materials on-site. In addition, Material Recycle and Recovery includes the Central Scrap Management Office (CSMO) that manages the receipt, storage, and shipment of enriched uranium scrap, the Precious Metals Business Center, which provides a cost effective service to many users within the DOE complex, and deactivation of building 9206.

At the LANL, the Material Recovery and Recycle activity includes: Nuclear Material Processing, including plutonium stabilization and repackaging and operation of the Special Recovery Line; Nuclear Materials Information Management, including Integrated Nuclear Material Information System and the Laboratory Information Management System. The material stabilization and repackaging effort addresses safety concerns raised by the DNFSB in recommendations 94-1 and 2000-1. It focuses on stabilization of plutonium bearing items in the TA-55 and CMR vaults by various means including aqueous and pyrochemical processing. The Special Recovery Line provides the nation's only capability to process tritium contaminated pits. The line is used to disassemble and decontaminate the pits for disposal or re-use and is vital in support of pit storage at the Pantex Site. The line may process 10-12 pits per year. The Highly Enriched Uranium (HEU) activity decontaminates plutonium contaminated HEU shells and converts the uranium metal to oxide for shipment to Y-12. This activity also processes HEU parts from other activities at LANL (such as the SRL pit surveillance) to prevent the accumulation of materials in the TA-55 vault.

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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At the SRS Tritium Site, Material Recovery and Recycling includes recovery and purification of tritium, deuterium, and helium-3 gases from reservoir recycle gas and facility effluent cleanup systems. This activity also processes materials received from other sites and performs enrichment of gas mixtures to support the Limited Life Component Exchange mission.

Containers	20,655	15,915	17,910
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The Containers activity includes container research and development, design, certification, re-certification, test and evaluation, production and procurement, fielding and maintenance, and decontamination and disposal, and off-site transportation authorization of nuclear materials and components transportation containers. Life extension program required shipping containers are funded under the Directed Stockpile Work program. It supports current and future operations in the face of a smaller workforce, increasing maintenance requirements, and ever more stringent safety regulations providing new and upgraded containers that meet modern safety performance standards for transport of hazardous materials. Efforts will include efficiencies provided by close coordination of planning and operations with users/customers minimizing the number of new specialized containers by developing new container systems that can accept a broader array of contents with improved safety, security and maintainability. In FY 2005, it includes the development of the DPP-1, the multi-actinide and high activity modification to the ES-3100 and adding additional contents to the DPP-2. Includes the establishment of a container inventory tracking system and database so that packaging inventories can be tracked and managed with much greater efficiency throughout the weapons complex.

Storage.....	12,534	11,298	18,982
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The Storage activity provides effective storage and management of national security and surplus pits, highly enriched uranium (HEU), and other weapons and nuclear materials in compliance with DOE/NNSA requirements. This includes the cost of receipt, storage, and inventory of nuclear materials, non-nuclear materials, HEU, enriched lithium, and components from dismantled warheads. It does not include the cost of temporary storage of materials waiting processing, staging for dismantlement, or any other interim storage. The storage program also provides programmatic planning for nuclear material requirements, including analysis, forecasting, and reporting functions as well as demand analysis for nuclear materials as designated by the NNSA or other drivers.

FY 2005 increase represents increased material characterization and significant scope increase to develop and begin implementation of the Highly Enriched Uranium Manufacturing Facility (HEUMF) Transition Plan.

Construction.....	191,000	258,949	206,302
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The Construction program includes the cost of new and ongoing line-item construction projects that support the nuclear weapons complex, except for the major programmatic specific projects that support specific campaigns. RTBF Construction projects range from complex, state-of-the-art

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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facilities and advanced scientific and technical tools, to replacement facilities and basic infrastructure. The RTBF Construction program is focused on two primary objectives: (1) identification, planning and prioritization of the projects required to support the weapons programs, and (2) development and execution of these projects within approved cost and schedule baselines. Both are critical to ensure a reliable nuclear weapons stockpile.

To effectively support both the near and long-term needs of the weapons complex, the RTBF Construction program must be flexible and responsive to diverse and evolving program and facility requirements. The Integrated Construction Program Plan (ICPP), established in FY 2002 by the Deputy Administrator for Defense Programs and the Associate Administrator for Facilities and Operations, is the planning and prioritization document that integrates the line item construction plans included in the sites' Ten Year Comprehensive Site Plans with the Future-Years Nuclear Security Program (FYNSP). Through the ICPP and associated processes, NNSA ensures the construction program is appropriately aligned and integrated with validated program requirements, and resources are optimally allocated to individual projects based on established priorities and demonstrated readiness.

Total, Readiness in Technical Base and Facilities.....	1,480,872	1,540,645	1,474,454
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Explanation of Funding Changes

FY 2005 vs. FY 2004 (\$000)

▪ Operations of Facilities

Kansas City Plant - decrease reflects a Congressional add-on in the FY 2004 appropriation.....	- 1,670
Lawrence Livermore National Laboratory - increase provides necessary funding to more fully address DNFSB, 10CFR830, and other compliance requirements	+ 12,826
Los Alamos National Laboratory - increase reflects additional effort to improve maintenance of mission essential facilities and infrastructure and implementation of nuclear safety controls associated with DNFSB, 10CFR830.	+ 4,806
Nevada Test Site – decrease in funding is associated with the additional Congressional funding provided in the FY 2004 appropriation for continued facility upgrades, refurbishments, operations and maintenance costs associated with and for the National Center for Combating Terrorism (NCCT)	- 18,784
Pantex Plant – decrease reflects a Congressional add-on in the FY 2004 appropriation.....	- 449
Sandia National Laboratories - decrease reflects a Congressional add-on in the FY 2004 appropriation.....	- 362
Savannah River Site - increase is primarily due to shutdown, de-inventory, and deactivation of 232-H to prepare it for long-term surveillance and maintenance, start of operations in 234-7H, and restoration of Capital Equipment and General Plant Projects funding to meet requirements	+ 17,157
Y-12 National Security Complex – decrease reflects a Congressional add-on in the FY 2004 appropriation as well as a reduction in ES&H projects assuming that 10CFR830 compliant Authorization Basis documentation completes in FY 2004. Funding for line item related Other Project Costs (OPCs) and Pre-conceptual Planning as well as partial reduction to 9206 Deactivation reflects the deferral of some projects to the outyears to support higher priority RTBF work scope	- 19,431
Institutional Site Support – increase supports DNFSB concerns for materials such as inactive actinides and other emerging issues related to operating and maintaining nuclear facilities.....	+ 1,749

Total, Operations of Facilities.....	- 4,158
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▪ Program Readiness

Net decrease is associated with decreased work scope at NTS for the Borehole Management Program, Equipment Revitalization, and the Chronic Beryllium Disease Prevention Program (CBDPP) Implementation project; partially offset by

Weapons Activities/

Readiness in Technical Base and Facilities

FY 2005 Congressional Budget

FY 2005 vs. FY 2004 (\$000)

increased funding for SNL Pulse Power Sciences and Microsystems activities consistent with FY 2004 Milestones	- 9,550
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▪ **Special Projects**

Decrease reflects a Congressional add-on in the FY 2004 appropriation as well as the elimination of funding for the Laboratory Critical Skills Development program and the Los Alamos County School District and Los Alamos National Laboratory Foundation.....	- 20,740
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▪ **Material Recycle and Recovery**

Increase is associated with the establishment of Enriched Uranium production capability; the initiation of Salvage operation and filter tear down; and a slight increase in Material Transport and MRR Exhaust Systems, which provide for the handling and storage of in-process materials	+ 11,225
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▪ **Containers**

Increase is attributed to an increase in the quantity of containers to be certified; Safety Analysis Report-Packages documentation; and initiation of DOE Order 461.1 Implementation Plan.....	+ 1,995
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▪ **Storage**

Increase represents material characterization and significant addition of scope to develop and begin implementation of the Highly Enriched Uranium Manufacturing Facility (HEUMF) Transition Plan	+ 7,684
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▪ **Construction**

Decrease supports mortgages for ongoing construction projects at planned levels and supports funding needed to continue or complete design for projects initiated under Project Engineering and Design in FY 2001-2004.

FY 2005 funding is also requested to initiate design for four new subprojects: DX High Explosives Characterization, LANL; Test Capabilities Revitalization, Phase II, SNL; Component Evaluation Facility, PX, and the Albuquerque Transportation and Technology Center, AL.

Finally, FY 2005 funding is requested to initiate two new line item construction projects: 05-D-401, Bldg 12-64 Upgrade, PX to complete modifications necessary to allow Pantex the ability to conduct nuclear explosive operations on any weapon program, in any bay, at any time; and 05-D-402, Beryllium Capability Project, Y-12 to replace existing facilities and equipment that are obsolete and inadequate to meet program and ES&H requirements	- 52,647
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Total Funding Change, Readiness in Technical Base and Facilities.....	- 66,191
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Capital Operating Expenses and Construction Summary

Capital Operating Expenses ^a

(Dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
General Plant Projects.....	27,790	28,624	29,482	+ 858	+ 3.0%
Capital Equipment.....	31,078	32,010	32,971	+ 961	+ 3.0%
Total, Capital Operating Expenses	58,868	60,634	62,453	+ 1,819	+ 3.0%

Construction Projects

(dollars in thousands)

	Total Estimated Cost (TEC) ^b	Prior-Year Appropriations	FY 2003	FY 2004 ^c	FY 2005	Unappropriated Balance
05-D-140, Project Engineering & Design, VL.....	42,800	0	0	0	11,600	31,200
05-D-401, Bldg 12- 64 Upgrade, PX.....	30,976.....	0	0	0	25,100	3,000
05-D-402, Beryllium Capability Project, Y-12.....	40,000	0	0	0	3,627	28,673
04-D-101, Test Capabilities Revitalization, Phase I, SNL.....	40,931.	0	0	36,235	0	0
04-D-102, Exterior Communications Infrastructure Modernization, SNL.....	22,494.....	0	0	19,882	0	0

^a Since funds are appropriated for Operations and Maintenance, which includes operating expenses, capital equipment and general plant projects, we no longer budget separately for capital equipment and general plant projects. FY 2004 and FY 2005 funding shown reflects estimates based on actual FY 2003 obligations.

^b For projects executed utilizing Project Engineering and Design (PED) funding, the TEC reflected in this table is the full project TEC, which includes the design funding that was appropriated PED line items: 01-D-103, 02-D-103, 03-D-103 and 04-D-103.

^c The FY 2004 amounts reflected in this table include the anticipated government-wide rescission of .59 percent. No changes were made to the individual construction project data sheets pending enactment of the rescission and an evaluation of its impact on the individual projects and formal approval of any resulting baseline changes.

(dollars in thousands)

	Total Estimated Cost (TEC) ^b	Prior-Year Appropriations	FY 2003	FY 2004 ^c	FY 2005	Unappropriated Balance
04-D-103, Project Engineering and Design, VL.....	3,500	0	0	3,543	1,500	0
04-D-125, Chemistry and Metallurgy Research (CMR) Facility Replacement, LANL	500,000	0	0	9,941	24,000	441,559
04-D-126, Building 12-44 Production Cells Upgrade, PX	13,948	0	0	8,728	2,600	0
04-D-127, Capability for Advanced Loading Missions (CALM), SRS	37,220..	0	0	2,734	0	24,336
04-D-128, TA-18 Mission Relocation Project, LANL	TBD..	0	0	8,768	0	TBD
03-D-102, National Security Sciences Bldg (LANL Administration Building – 04-D-104), LANL.....	99,000.....	0	11,652	49,705	37,348	0
03-D-103, Project Engineering and Design, VL.....	33,276	0	7,431	10,545	15,275	0
03-D-121, Gas Transfer Capacity Expansion, KC	16,266....	0	3,975	11,233	0	0
03-D-122, Purification Facility, Y-12	37,977	0	28,184	0	0	0
03-D-123, SNM Component Requalification Facility, PX.....	20,813	0	6,620	7,583	4,602	0

(dollars in thousands)

	Total Estimated Cost (TEC) ^b	Prior-Year Appropriations	FY 2003	FY 2004 ^c	FY 2005	Unappropriated Balance
02-D-103, Project Engineering and Design, VL	27,755	13,542	15,222	10,891	5,250	3,150
02-D-105, Engineering Technology Complex Upgrade, LLNL	26,700	4,674	4,600	9,718	5,400	0
02-D-107, Electrical Power Systems Safety, Communications and Bus Upg., NV	16,313.....	3,451	7,282	2,870	0	0
01-D-103, Project Engineering and Design, VL.....	TBD	41,522	0	1,591	6,000	TBD
01-D-107, Atlas Relocation to the Nevada Test Site, NV	16,272	10,989	4,097	0	0	0
01-D-124, Highly Enriched Uranium Materials Facility, Y-12	211,898	17,710	24,140	44,735	64,000	61,313
01-D-126, Weapons Evaluation Test Laboratory, SNL.....	22,126.....	10,693	8,595	2,821	0	0
01-D-800, Sensitive Compartmented Information Facility, LLNL.....	24,318	14,986	9,332	0	0	0
99-D-103, Isotope Sciences Facility, LLNL.....	17,342	13,356	3,986	0	0	0
99-D-104, Protection of Real Property (Roof	18,384	10,471	4,413	3,479	0	0

^d Funding amounts do not reflect \$6,205,000 of prior year funding and \$10,936,000 of FY 2003 funding that has been reprogrammed for OVEC in FY 2004 or is planned for reprogramming to meet the Department's commitment for EEOICPA, nor the future planned reallocation of funding from Building 12-44 Production Cells Upgrade subproject (-\$1,518,000); the LIGA Technologies Facility subproject (-\$1,000,000); and the Beryllium Capability subproject (-700,000). The TEC assumes approval of all of these.

**Weapons Activities/
Readiness in Technical Base and Facilities**

FY 2005 Congressional Budget

(dollars in thousands)

	Total Estimated Cost (TEC) ^b	Prior-Year Appropriations	FY 2003	FY 2004 ^c	FY 2005	Unappropriated Balance
(Roof Reconstruction, PH II), LLNL.....						
99-D-125, Replace Boilers and Controls, KC	16,237	14,271	1,966	0	0	0
99-D-127, SMRI- Kansas City Plant, KC	117,749	76,349	28,925	12,403	0	0
99-D-128, SMRI- Pantex Plant, PX.....	13,206.....	12,811	395	0	0	0
98-D-123, SMRI- Tritium Facility Modernization and Consolidation, SR	113,308.....	103,132	10,176	0	0	0
96-D-102, Stockpile Stewardship Facility Revitalization, Phase VI, VL.....	71,271	68,725	994	1,544	0	0
88-D-122, Facilities Capability Assurance Programs, VL			9,015	0	0	0
Total, Construction			191,000	258,949	206,302	

Major Items of Equipment *(TEC \$2 million or greater)*

(dollars in thousands)

	Total Estimated Cost (TEC)	Prior-Year Appropriations	FY 2003	FY 2004	FY 2005	Acceptance Date
Automated Storage and Retrieval System (AS/RS).....	3,120.....	0	0	0	3,120	FY 2006
Total, Major Items of Equipment	3,120	0	0	0	3,120	

KC-Description/Justification: This project is required to procure and install an additional automated storage and retrieval system (AS/RS). The existing AS/RS is the main storage facility for 70% of the Kansas City Plant production inventory part numbers. The key complex of storage equipment is the focal point for the timely receipt and disbursal of parts and assemblies that support production operations. The existing equipment is at capacity and additional automated storage space is required. The automated process is 40% more efficient than manual shelving and will store four times as much material per square foot. The Stockpile Management Restructuring Initiative (SMRI) emphasis on consolidation of plant inventories and the continuing downsizing of the physical plant has resulted in inventory levels that exceed the capacity of the existing stores areas. The new AS/RS will accommodate this inventory in a reduced area. It will be installed adjacent to the existing system. The existing system will remain operational to support current operations.

05-D-140, Project Engineering and Design (PED) - RTBF, Various Locations

1. Construction Schedule History

	Fiscal Quarter				Total Estimated Cost (\$000) a
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete	
FY 2005 Budget Request (A-E and technical design only).....	1Q 2005	1Q 2008	1Q 2006	4Q 2010	42,800

2. Financial Schedule

(dollars in thousands)			
Fiscal Year	Appropriations	Obligations	Costs
Design			
2005	11,600	11,600	8,700
2006	19,500	19,500	18,400
2007	11,700	11,700	13,700
2008	0	0	2,000

3. Project Descriptions, Justification, and Scope

This project provides for Architect-Engineering (A-E) services for Readiness in Technical Base and Facilities (RTBF) construction projects, allowing designated projects to proceed from conceptual design into preliminary design and final design. The design effort will be sufficient to assure project feasibility, define the scope, provide detailed estimates of construction costs based on the approved design and working drawings and specifications, and provide construction schedules, including procurements. The designs will be extensive enough to establish performance baselines and to support construction or long-lead procurements in the fiscal year in which line item construction funding is requested and appropriated.

Conceptual design studies are prepared for each project using Operations and Maintenance funds prior to receiving design funding under a PED line item. These conceptual design studies define the scope of the project and produce a rough cost estimate and schedule.

New FY 2005 PED design projects are described below. While not anticipated, some changes may occur due to continuing conceptual design studies or developments occurring after submission of this data sheet. These changes will be reflected in subsequent years. Preliminary estimates for the cost of preliminary and final design and engineering efforts for each subproject are provided, as well as very

^a The Total Estimated Cost (TEC) is for design only for the subprojects currently included in this data sheet.

preliminary estimates of the Total Estimated Cost (TEC), including physical construction, of each subproject. The final TEC and the Total Project Cost (TPC) for each project described below will be validated and the Performance Baseline will be established at Critical Decision 2 (CD-2), following completion of preliminary design.

FY 2005 Proposed Design Projects

05-01: DX High Explosives Characterization Project, LANL

Fiscal Quarter				Total Estimated Cost (Design Only (\$000))	Preliminary Full Total Estimated Cost Projection (\$000)
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
1Q 2005	4Q 2005	1Q 2006	3Q 2007	2,000	25,000-40,000

Fiscal Year	Appropriations	Obligations	Costs
2005	2,000	2,000	1,600
2006	0	0	400

This project is necessary to maintain and improve the high explosives characterization, analytical, and experimental capabilities at Los Alamos National Laboratory (LANL). Existing facilities are obsolete, unreliable, and are increasingly expensive to operate. This project will make operations more efficient and reliable through provision of a modern facility, which will consolidate operations and functions from the existing 25 facilities and structures. Operating costs will be reduced, and working conditions for occupants will be drastically improved. Replacing many administrative controls with engineered controls and systems will enhance safety for occupants and environmental compliance.

The DX High Explosives Characterization Project will design and construct a replacement analytical chemistry facility. The replacement facility will consolidate mission critical operations necessary for continued support of the Stockpile Stewardship Mission. It will contain roughly 43,000 square feet of high explosive analytical chemistry facilities and support space, which is approximately the same that is currently contained in 25 separate structures. It will be constructed at Technical Area (TA)-22, near the existing facilities.

The existing structures and facilities, which will no longer be required as a result of the consolidation, will be decommissioned and demolished under the Facilities and Infrastructure Revitalization Program (FIRP).

05-02: Test Capabilities Revitalization (TCR) Project, Phase II, SNL

Fiscal Quarter				Total Estimated Cost (Design Only (\$000))	Preliminary Full Total Estimated Cost Projection (\$000)
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
1Q 2005	4Q 2007	1Q 2007	4Q 2010	7,200	60,000-70,000

Fiscal Year	Appropriations	Obligations	Costs
2005	1,600	1,600	1,600
2006	4,500	4,500	4,000
2007	1,100	1,100	1,600

Phase II of the Test Capabilities Revitalization (TCR) project is required to revitalize the NNSA aged and deteriorated normal and abnormal mechanical environment test capabilities at Sandia National Laboratories (SNL) and to enable an integrated experimental strategy to develop, validate, and apply models required to perform weapon system qualifications and development activities. The facilities to be revitalized are needed to perform nuclear weapon component-, subsystem- and system-level design, development, qualification, surveillance, significant finding investigations, and model development and validation experimentation and testing.

The TCR test capabilities needs are driven by three overarching and equally important requirements. The first requirement is to maintain and modernize the existing stockpile as defined in the current *Nuclear Weapons Stockpile Memorandum*. This encompasses all maintenance and stockpile surveillance activities, as well as Significant Finding Investigations. This requirement also includes Phase 6.2 and 6.3 development efforts that result in weapons modifications or alterations for correcting stockpile defects or for providing life extensions. The second requirement, stated explicitly in the 1994 Nuclear Posture Review (NPR) and reaffirmed in the 2002 NPR, is to maintain the capability to design a new weapon system. The test capability needs arising from these two overarching requirements are to support weapon design and development efforts at Sandia and to maintain the ability to qualify weapons to the Military Characteristics (MCs) and STS. The third requirement driving Sandia test capabilities is the need to develop and validate weapon-related models. Sandia has embarked on an aggressive modeling and simulation effort under the Advanced Simulation and Computing (ASCI) Campaign. To be successful, this campaign requires significant test support to aid the development, validation, and application of models.

The existing test capabilities are inadequate to reliably support mission requirements. Without revitalization, individual test capabilities will be lost over the next five years. Without labs and test instrumentation enhancements, the Modeling and Simulation approach to design, development, and qualification will not be achieved. Without improved test facilities, Sandia will not attract the high-quality test engineers and scientists needed to meet NNSA's stockpile stewardship obligations.

A study conducted in 2000 found that nearly 90% of TCR's test equipment and facilities were inadequate or marginal, and only 11% were adequate to meet mission requirements. Conditions have worsened since this study and multiple system failures have delayed defense program testing and increased program expenses to make temporary repairs.

05-03: Component Evaluation Facility (CEF), Pantex

Fiscal Quarter				Total Estimated Cost (Design Only (\$000))	Preliminary Full Total Estimated Cost Projection (\$000)
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
4Q 2005	1Q 2008	4Q 2007	3Q 2010	16,000	75,000-100,000

Fiscal Year	Appropriations	Obligations	Costs
2005	2,000	2,000	500
2006	9,000	9,000	9,000
2007	5,000	5,000	5,500
2008	0	0	2,000

The proposed Component Evaluation Facility (CEF) at the Pantex Plant will consolidate and increase capability and capacity of existing technologies, and provide space for new technologies required for surveillance and requalification of weapons. The consolidation of these activities into this new facility will allow bays currently used for evaluation to be returned to weapon assembly/disassembly operations.

Capabilities at the CEF will include the ability to conduct concurrent operations on multiple stockpile weapon types on a non-interference basis, to completely disassemble and inspect any insensitive-high-explosive weapon, and sufficient facility capacity to house, test, and operate new weapon diagnostics developed in the Enhanced Surveillance activities of the Engineering Campaign.

The CEF will consist of an approximately 12-bay facility complex. The bay complex will include weapon processing bays, evaluation bays, storage areas, parts reacceptance areas, office space and utilities. The facility will be designed and sited for nuclear weapon explosive packages and high energy radiography hazards.

05-04: Albuquerque Transportation and Technology Center (ATTC), AL

Fiscal Quarter				Total Estimated Cost (Design Only (\$000))	Preliminary Full Total Estimated Cost Projection (\$000)
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
4Q 2005	4Q 2007	2Q 2007	4Q 2009	17,600	170,000-200,000

Fiscal Year	Appropriations	Obligations	Costs
2005	6,000	6,000	5,000
2006	6,000	6,000	6,000
2007	5,600	5,600	6,600

The proposed Albuquerque Transportation and Technology Center (ATTC) project will enhance the Transportation and Safeguards mission in Albuquerque, New Mexico by collocating several transportation related activities at one location, providing additional space for the mission, replacing inadequate facilities, precluding the need for leasing commercial space, and housing a new mission, Continuity of Operations Preparedness (COOP). The Secure Transportation Asset mission is the single capability in the United States for the transportation of special nuclear material, components, and systems between DOE and DoD installations. Facilities in Albuquerque currently where activities are

performed in support of this mission include: (1) a Federal Agent Facility (FAF) where transportation personnel are trained and dispatched; (2) a Mobile Electronic Maintenance facility (MEMF) that services the specialized communications equipment used during shipments; (3) a Vehicle Maintenance Facility (VMF) that performs maintenance and repair of tractor trailers and escort vehicles; and (4) the NNSA Kirtland Operations activity that performs research, development, engineering, and manufacturing for the specialized vehicles and communications equipment used for shipments. In addition to collocating all of these functions, the project will also include a Transportation Emergency Control Center (TECC) that will house the existing Transportation Control Center and Emergency Operations Center. The TECC will also include facilities for the COOP mission.

Many of the transportation operations are now being performed in approximately 40-year old facilities that were constructed as temporary facilities. These facilities are not sized to meet the current mission, are expensive to maintain, do not meet today's security and Environmental, Safety, & Health requirements, and cannot be economically modified to meet the current requirements. The existing TECC does not meet today's security requirements in that it is housed in a basic office building. A hardened TECC facility is required. There are no facilities available to adequately house the COOP function.

The existing transportation activities take place in six locations that are scattered over a seven-mile area. This requires a continuous movement of personnel and equipment between the sites to perform the work, and to manage the activities. Collocation of the transportation activities at one site will reduce operating costs by eliminating need for moving people and equipment, and having all activities at one location will promote operational synergies that will improve operating efficiencies. Operating costs will be reduced due to the elimination of aged facilities that are expensive to operate and maintain, and will eliminate the annual cost to lease commercial facilities.

4. Details of Cost Estimate ^a

(dollars in thousands)

	Current Estimate	Previous Estimate
Design Phase ^b		
Preliminary and Final Design costs (Design Drawings and Specifications)	36,380	N/A
Design Management costs (10% of TEC)	4,280	N/A
Project Management costs (5% of TEC)	2,140	N/A
Total, Design Costs (100% of TEC)	42,800	N/A
Total, Line Item Costs (TEC, Design Only)	42,800	N/A

^a This cost estimate is based upon direct field inspection and historical cost estimate data, coupled with parametric cost data and completed conceptual studies and designs, when available. The cost estimate includes design phase activities only. Construction activities will be requested as individual line items upon completion of Title I design.

^b The percentages for Design Management; Project Management; and Design Phase Contingency are estimates based on historical records and are preliminary estimates.

Weapons Activities/RTBF/Construction

05 D 140 Project Engineering and Design – RTBF

FY 2005 Congressional Budget

5. Method of Performance

Design services will be obtained through competitive and/or negotiated contracts. Managing and Operating (M&O) contractor staff may be utilized in areas involving security, production, proliferation, etc. concerns.

6. Schedule of Project Funding

	Prior Years	FY 2003	FY 2004	FY 2005	Outyears	Total
Project Cost						
Facility Cost						
Project Engineering and Design.....	0	0	0	8,700	34,100	42,800
Total, Line Item TEC	0	0	0	8,700	34,100	42,800
Total, Facility Costs (Federal and Non- Federal)	0	0	0	8,700	34,100	42,800
Other Project Costs						
Conceptual design costs	0	0	2,101	150	45	2,296
NEPA	0	0	20	10	5	35
Other project-related costs.....	1,000	785	1,900	3,650	23,284	30,619
Total, Other Project Costs	1,000	785	4,021	3,810	23,334	32,950
Total Project Cost	1,000	785	4,021	8,010	61,934	75,750

05-D-401, Building 12-64 Production Bays Upgrade Pantex Plant, Amarillo, Texas

- This project is requesting the majority of construction funding in FY 2005 to ensure the earliest and most flexible contracting for long-lead procurement and construction. This approach reduces program and project risk and enables potential project acceleration to better support the life extension project deliverables schedule.
- This project is still in the Planning Phase. As a result, the cost and schedule are preliminary estimates and are subject to change once the Performance Baseline is approved by the Acquisition Executive at the completion of the preliminary design (Critical Decision 2).

1. Construction Schedule History

Fiscal Quarter					
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete	Total Estimated Cost (\$000)	Total Project Cost (\$000)

FY 2005 Budget Request

(Preliminary Estimate).....1Q 2004 1Q 2006 4Q 2005 1Q 2007 30,976^a 36,976

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
Design^a			
2003	1,106 ^b	1,106	0
2004	1,670 ^c	1,670	2,000
2005	100	100	876
Construction			
2005	25,100	25,100	8,846
2006	3,000	3,000	12,960
2007	0	0	6,294

^a The TEC includes the cost of preliminary and final design (\$2,876,000) which was appropriated in 03-D-103, Project Engineering and Design (PED).

^b Original appropriation was \$1,139,000. This was reduced by \$7,000 by a rescission and by \$26,000 by the Weapons Activities general reduction enacted by P.L. 108-7, FY 2003 Omnibus Appropriations Act, Title VI.

^c The FY 2004 appropriated amount has not been adjusted for the FY 2004 Congressional Omnibus Appropriations Bill rescission of .59 percent.

3. Project Description, Justification, and Scope

The Building 12-64 Production Bays Upgrade Project at the Pantex Plant will provide a crucial asset in meeting the DOE's objective of maintaining confidence in the nuclear weapons stockpile. The Project Mission for the Building 12-64 Production Bays Upgrade is defined as completing the modifications necessary to allow Pantex the ability to conduct Nuclear Explosive (NE) operations on any weapon program, in any Bay, at any time.

This project will upgrade seventeen NE bays to the Pantex and DOE complex standard for weapon operations.

The need for the proposed project is workload driven. This project will provide modifications to an existing facility to increase capacity to meet the impact of changing weapon complexity, projected workload, and the life extension project activities in future planning. The project will modify the bays and the infrastructure serving the bays to bring them up to the capability of the more modern bay facilities. The project will install systems necessary to allow any weapons program to be started in any of the bays in 12-64. Some of the systems installed or modified are the heating, ventilating, and air conditioning system, the dehumidification system, the building electrical system, the hoists and hoist support system, installation of a deluge system, and the installation of a task exhaust system.

These modifications will allow the facility to resume nuclear explosive work. This will add another 17 bays to alleviate the projected bay resource short fall to support the planned workload for the life extension project expected to start in FY 2007. The construction activities are planned to occur on a non-interference basis with the on-going production activities in 12-64. At present, the pit repackaging efforts occur in the majority of the bays in 12-64. These efforts will be complete in time for construction to begin on schedule.

The project is interrelated with the Building 12-44 Production Cells Upgrade Project. The weapons must go through operations in the bays before transportation to the Cells. This project will prepare the weapons for the cell operations. Both projects provide additional capacity to meet the life extension project schedules.

Project Milestones

FY 2004: Establish Performance Baseline (CD-2)

3Q

4. Details of Cost Estimate

(dollars in thousands)

	Current Estimate	Previous Estimate
Design Phase (9.3% of TEC) ^a	2,876	N/A
Construction Phase		
Improvements to Land	33	N/A
Buildings	19,437	N/A
Removal Cost less salvage	1,876	N/A
Construction Management (6.7% of TEC)	2,071	N/A
Project Management (.8% of TEC)	239	N/A
Total Construction Costs (76.4% of TEC)	23,656	N/A
Contingencies		
Construction Phase (14.3% of TEC)	4,444	N/A
Total, Line Item Costs (TEC) ^b	30,976	N/A

5. Method of Performance

The design services (Title I, II, III) will be accomplished by an outside A-E firm and will be administered by the Managing and Operating (M&O) Contractor (BWXT Pantex, LLC) who will perform equipment design and procurement. The construction services of this project will be performed by an outside construction contractor operating under a contract to be awarded on the basis of competitive bids. This contract will be administered by the M&O Contractor (BWXT Pantex, LLC). Construction Management Services will be performed by the M&O Contractor (BWXT Pantex, LLC). Best value practices will be used for design and construction services.

^a Design funding was appropriated in 03-D-103, PED.

^b This is a preliminary estimate. The performance baseline will be established following completion of preliminary design and CD-2.

6. Schedule of Project Funding

(dollars in thousands)

	Prior Years	FY 2003	FY 2004	FY 2005	Outyears	Total
Project Costs						
Facility Costs						
Design.....	0	0	2,000	876	0	2,876
Construction.....	0	0	0	8,846	19,254	28,100
Total, Line item TEC	0	0	2,000	9,722	19,254	30,976
Total Facility Costs (Federal and Non-Federal).....	0	0	2,000	9,722	19,254	30,976
Other Project Costs						
Conceptual design cost.....	0	851	58	0	0	909
NEPA Documentation costs	0	30	0	0	0	30
Other project-related costs	0	198	158	269	4,436	5,061
Total Other Project Costs	0	1,079	216	269	4,436	6,000
Total Project Cost (TPC).....	0	1,079	2,216	9,991	23,690	36,976

7. Related Annual Funding Requirements

(FY 2007 dollars in thousands)

	Current Estimate	Previous Estimate
Related annual costs (estimated life of project – 30 years)		
Facility operating costs	1,100	N/A
Facility maintenance and repair costs.....	464	N/A
Programmatic operating expenses directly related to the facility.....	500	N/A
Capital equipment not related to construction but related to the programmatic effort in the facility.....	400	N/A
Utility costs.....	302	N/A
Total related annual funding (operating from FY 2007 through FY 2036).....	2,766	N/A

05-D-402, Beryllium Capability (BeC) Project

Y-12 National Security Complex, Oak Ridge, Tennessee

- In FY 2002/2003, the Beryllium Capability Project (formerly titled Beryllium Manufacturing Facility) underwent extensive program evaluation. These reviews resulted in a modified approach that delivers a better balance of capabilities required to improve environment, safety and health measures and support current and future projected needs of the weapons program. The project has been revised to support the start of preliminary design, including:
 - The Total Estimated Cost (TEC) has been reduced from a range of \$150-\$200 million to \$35-45 million, and the Total Project Cost (TPC) has been reduced accordingly.
 - The project title has been changed from Beryllium Manufacturing Facility to Beryllium Capability Project to more accurately reflect the revised mission and program requirements.
 - The Architect-Engineering (A-E) Work Initiated date has changed from 2Q 2003 to 3Q 2004 to address additional program evaluation and project alternatives development. Overall, the construction complete date has been accelerated from 3Q 2009 to 2Q 2008.

These revisions incorporate modifications to project scope driven by changes in program requirements and priorities. The changes are primarily reductions in scope consistent with the program decision to provide the necessary equipment and facilities to maintain existing beryllium components versus manufacturing new components.

- The FY 2005 construction request is required in order to support long-lead procurement required during design and prior to the start of construction.
- Since the project is still in the Planning Phase, the cost and schedule are preliminary estimates and are subject to change once the Performance Baseline is approved by the Acquisition Executive at the completion of the preliminary design (Critical Decision 2--CD-2).

1. Construction Schedule History

	Fiscal Quarter				Total Estimated Cost (\$000)	Total Project Cost (\$000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 2005 Budget Request (Preliminary Estimate).....	3Q 2004	3Q 2005	1Q 2006	2Q 2008	40,000	50,000

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations ^a	Costs ^a
Design ^b			
2002	0 ^c	0	0
2003	0 ^d	0	0
2004	7,700 ^e	7,000	1,800
2005	0	0	5,200
Construction			
2005	3,627	4,327	1,000
2006	15,000	15,000	16,000
2007	12,000	12,000	13,000
2008	1,673	1,673	3,000

3. Project Description, Justification, and Scope

This project provides equipment and facilities for the Beryllium Capability (BeC) Project at the Y-12 National Security Complex. This project will provide a new long-term capability to maintain existing Be components versus manufacturing new components.

The BeC Project will replace existing beryllium operational capabilities that are obsolete and inadequate to meet

^a Obligations and costs assume that \$700,000 will be reprogrammed in FY 2005 from PED (02-D-103) to this line item to support construction activities.

^b Design funding was appropriated in 02-D-103, PED.

^c Original FY 2002 appropriation of \$7,700,000 was reduced by \$800,000 as part of a reprogramming to 01-D-103 for the Purification Facility design. The appropriated amount was further reduced by \$1,695,000 as a result of a rescission pursuant to the FY 2002 Supplemental Appropriations Act, P.L. 107-206. Finally, the FY 2004 appropriations directed the Department to meet its obligations to make payments to the Ohio Valley Electric Corporation (OVEC) from FY 2004 funding rather than in accord with the Department's proposed reprogramming presented in FY 2003. Funding in the amount of \$5,205,000 has been taken from this project to fund a portion of the Weapons Activities total financial responsibility for OVEC of \$23,000,000.

^d Original appropriation was \$8,665,000. This was reduced by \$56,000 by a rescission and by \$196,000 by the Weapons Activities general reduction enacted by P.L. 108-7, FY 2003 Omnibus Appropriations Act, Title VI. The appropriation was further decreased \$876,000 by the FY 2003 reduction/reallocation reprogramming. In addition, the FY 2004 appropriations directed the Department to meet its obligations to make payments to the Ohio Valley Electric Corporation (OVEC) from FY 2004 funding rather than in accord with the Department's proposed reprogramming presented in FY 2003. Funding in the amount of \$6,669,000 has been taken from this project to fund a portion of the Weapons Activities total financial responsibility for OVEC of \$23,000,000. The remaining \$868,000 is proposed for reprogramming for the Departmental commitment for EEOICPA.

^e The FY 2004 appropriated amount has not been adjusted for the FY 2004 Congressional Omnibus Appropriations Bill rescission of .59 percent.

program requirements and environmental, safety, and health (ES&H) requirements. The scope includes capability for cleaning, handling, and inspecting BeO parts as well as sample preparation. An area for a future feature machine operation will also be provided. Much of the existing equipment has deteriorated and is at the end of its useful life. The systems are inefficient and unreliable due to their age and the state of disrepair, and maintenance is difficult and expensive due to the age, contamination levels of the equipment, and difficulty in acquiring spare parts. New equipment will provide an increased level of worker and personnel protection. This project will also have the additional benefit of vacating old facilities that are seriously degraded which will allow for further footprint reduction and reduction of maintenance backlog.

Project Milestones:

FY 2005: Establish Performance Baseline (CD-2) 3Q

4. Details of Cost Estimate

(dollars in thousands)		
	Current Estimate	Previous Estimate
Design Phase (17.5% of TEC) ^a	7,000	N/A
Construction Phase		
Buildings.....	8,500	N/A
Special Equipment.....	9,500	N/A
Inspection, Design and Project Liaison, Testing, Checkout and Acceptance.....	3,200	N/A
Construction Management (2.8% of TEC).....	1,100	N/A
Project Management (3.8% of TEC).....	1,500	N/A
Total, Construction Costs (59.5% of TEC)	23,800	N/A
Contingencies		
Construction Phase (23% of TEC)	9,200	N/A
Total, Line Item Costs (TEC) ^b	40,000	N/A

5. Method of Performance

Overall project direction and responsibility for this project resides with the NNSA. NNSA has assigned day-to-day management of project activities to the Y-12 Security Complex Management and Operating (M&O) contractor, BWXT Y-12, including design, procurement, construction, and commissioning.

The M&O contractor will perform preliminary design. To the extent practical, final design and major procurement will be performed by an engineering/procurement (E/P) subcontractor awarded on the basis of the best value to the government. Construction will be performed to the extent practical using subcontracts that are awarded based on fixed-price competitive bidding.

^a Design funding was appropriated in 02-D-103, PED.

^b This is a preliminary estimate. The Performance Baseline will be established following completion of preliminary design and approval of CD-2.

6. Schedule of Project Funding

(dollars in thousands)

	Prior Years	FY 2003	FY 2004	FY 2005	Outyears	Total
Project Cost						
Facility Cost						
Design.....	0	0	1,800	5,200	0	7,000
Construction.....	0	0	0	1,000	32,000	33,000
Total, Line item TEC	0	0	1,800	6,200	32,000	40,000
Total, Facility Costs (Federal and Non-Federal).....	0	0	1,800	6,200	32,000	40,000
Other Project Costs						
Conceptual design cost ^a	0	0	1,500	0	0	1,500
Other project-related costs ^b	0	0	1,500	1,500	5,500	8,500
Total, Other Project Costs	0	0	3,000	1,500	5,500	10,000
Total, Project Cost (TPC).....	0	0	4,800	7,700	37,500	50,000

7. Related Annual Funding Requirements

(FY 2008 dollars in thousands)

	Current Estimate	Previous Estimate
Related annual costs		
Annual facility operating costs ^c	TBD	N/A
Annual utility costs.....	TBD	N/A
Total related annual funding (operating from FY 2008 through FY 2028).....	TBD	N/A

^a The Conceptual design costs include costs for completion of the Critical Decision 1 package and related documentation (e.g., project execution plan, conceptual design report, acquisition strategy, National Environmental Protection Act evaluation, ES&H plan, and Quality Assurance Plan).

^b Other project related costs include plant support to the project and commissioning/startup activities (e.g., development of plans and procedures, commissioning, and startup).

^c Annual facility operating costs to be determined during design.

**04-D-103, National Nuclear Security Administration
Project Engineering and Design (PED)
Various Locations**

Significant Changes

- The FY 2004 Appropriations Act added funding for design of the replacement of the NTS Fire Station No. 1, which increased the TEC by \$1,564,000.

1. Construction Schedule History

	Fiscal Quarter				Total Estimated Cost (\$000) ^a
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete	
FY 2004 Budget Request (<i>A-E and technical design only</i>).....	1Q 2004	3Q 2006	N/A	N/A	3,500
FY 2005 Budget Request (<i>A-E and technical design only</i>).....	2Q 2004	4Q 2006	N/A	N/A	5,064

2. Financial Schedule

(dollars in thousands)			
Fiscal Year	Appropriations	Obligations	Costs
Design			
2004	3,564 ^b	3,564	1,200
2005	1,500	1,500	3,164
2006	0	0	700

3. Project Descriptions, Justification, and Scope

This project provides for Architect-Engineering (A-E) services for several National Nuclear Security Administration (NNSA) construction projects, allowing designated projects to proceed from conceptual design into preliminary design and final design. The design effort will be sufficient to assure project feasibility, define the scope, provide detailed estimates of construction costs based on the approved design and working drawings and specifications, and provide construction schedules, including procurements. The designs will be extensive enough to establish performance baselines and to support

^a The Total Estimated Cost (TEC) is for design only for the subprojects currently included in this data sheet.

^b The FY 2004 appropriated amount has not been adjusted for the FY 2004 Congressional Omnibus Appropriations Bill rescission of .59 percent.

construction or long-lead procurements in the fiscal year in which line item construction funding is requested and appropriated.

Conceptual design studies are prepared for each project using Operations and Maintenance funds prior to receiving design funding under a PED line item. These conceptual design studies define the scope of the project and produce a rough cost estimate and schedule.

FY 2004 PED design projects are described below. While not anticipated, some changes may occur due to continuing conceptual design studies or developments occurring after submission of this data sheet. These changes will be reflected in subsequent years. Preliminary estimates for the cost of preliminary and final design and engineering efforts for each subproject are provided, as well as very preliminary estimates of the TEC (including physical construction) of each subproject. The final TEC and the Total Project Cost (TPC) for each project described below will be validated and the Performance Baseline will be established at Critical Decision 2 (CD-2), following completion of preliminary design.

FY 2004 Proposed Design Projects

04-01: NTS Replace Fire Station No. 2, Nevada Test Site

Fiscal Quarter				Total Estimated Cost (Design Only (\$000))	Preliminary Full Total Estimated Cost Projection (\$000)
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
2Q 2004	1Q 2005	2Q 2006	4Q 2007	800	9,000-10,000

Fiscal Year	Appropriations	Obligations	Costs
2004	800	800	400
2005	0	0	400

This design project provides for the A-E services to develop and complete preliminary and final design for the proposed NTS Replace Fire Station No. 2, Nevada Test Site. This subproject will design the replacement for an existing undersized fire station facility built in 1966. The new Fire Station will be approximately 12,460 square feet, as compared to the existing 4,255 square foot facility, and will comply with National Fire Protection Association (NFPA) 1500 and provide the correct space to accommodate emergency response units. It will also provide administrative and dormitory space, as well as restrooms, a kitchen, training classrooms, storage, and support areas (e.g., medical treatment room). The facility will include all heating, ventilation, and air-conditioning (HVAC), fire protection, electrical, communications, and local area network (LAN) systems and a fiber optics communications network throughout the facility to meet present and projected requirements. The project will include all administrative equipment, furniture, and associated equipment necessary to operate the facility.

04-02: High Explosives (HE) Pressing Facility, Pantex Plant

Fiscal Quarter				Total Estimated Cost (Design Only (\$000))	Preliminary Full Total Estimated Cost Projection (\$000)
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
4Q 2004	4Q 2006	4Q 2006	2Q 2008	2,700	30,000-36,000

Fiscal Year	Appropriations	Obligations	Costs
2004	1,200	1,200	500
2005	1,500	1,500	1,500
2006	0	0	700

The proposed HE Pressing Facility will support requirements of the Stockpile Stewardship and Management Program. The project will provide a new facility replacing the aging presses and Buildings 12-17, 12-21A, and 12-63, that house the high explosive main charge pressing activities at the Pantex Plant. It will provide Pantex the facilities to meet the impact of changing weapon complexity, projected workload, and the refurbishment activities in future planning, including the W76, W78, and W88 LEPs.

The proposed HE Pressing Facility consists of approximately 43,000 square feet and includes the main pressing facility, a magazine storage area, and a ramp. The facility will consist of:

- Powder inspection/weighing bay
- Oven bays to heat the explosives prior to pressing
- HE press bays for isostatic and mechanical presses
- NDE bay to evaluate pressed HE parts prior to machining
- Machining bay for rough cut machining
- Staging bays for staging explosives powder, pressed pieces, and rough cut pressed pieces.

This project will also have the additional benefit of vacating old facilities allowing footprint reduction and maintenance backlog.

04-03: NTS Replace Fire Station No. 1, Nevada Test Site

Fiscal Quarter				Total Estimated Cost (Design Only (\$000))	Preliminary Full Total Estimated Cost Projection (\$000)
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
2Q 2004	1Q 2005	2Q 2006	4Q 2007	1,564	9,000-10,000

Fiscal Year	Appropriations	Obligations	Costs
2004	1,564	1,564	300
2005	0	0	1,264

This design project provides for the A-E services to develop and complete preliminary and final design for the proposed NTS Replace Fire Station No. 1, Nevada Test Site. Approximately 1000 employees and 1300 square miles of the Nevada Test Site are being served by Fire Stations No. 1 and No. 2, located 25 miles apart. Constructed to meet the 1960's codes, the buildings do not meet current code

Weapons Activities/RTBF/Construction

04-D-103, National Nuclear Security Administration

Project Engineering and Design (PED), VL

FY 2005 Congressional Budget

requirements. The design for replacing Fire Station No. 2 is also included in this data sheet (subproject 01), and was requested in the FY 2004 Congressional budget because it was considered of higher priority due to the physical condition of the facility. The FY 2004 Appropriation Act added funding for the design of this fire station as well.

Major areas of deficiencies affect every area of occupational safety and health, including; separation of public and living areas from the vehicular and maintenance areas; isolation of blood borne pathogens, maintenance of clothing, breathing, and other equipment in proper facilities, and the general well being of employees who could be on duty up to 56 hours at a time.

The function of the station include those of a standard municipal fire and emergency management facilities (structural and vehicular fire fighting and rescue) and in addition, are equipped for airfield and wild-land fires; respond to HAZMAT conditions; provide training for fire fighting personnel and those who respond to HAZMAT conditions; and, respond to search and rescue operations. Fire Station No. 1 also has all of the function of the main administrative station in a small city, plus the responsibilities and facilities requirements associated with 911 call centers.

Preliminary design for the project will address the potential of a design-build acquisition strategy to shorten the construction schedule and potentially lower the cost.

4. Details of Cost Estimate

(dollars in thousands)

	Current Estimate	Previous Estimate
Design Phase a		
Preliminary and Final Design costs (Design Drawings and Specifications).....	4,314	2,975
Design Management costs (10% of TEC).....	500	350
Project Management costs (5% of TEC).....	250	175
Total, Design Costs (100% of TEC).....	5,064	3,500
Total, Line Item Costs (TEC, Design Only).....	5,064	3,500

5. Method of Performance

Design services will be obtained through competitive and/or negotiated contracts. Managing and Operating (M&O) contractor staff may be utilized in areas involving security, production, proliferation, and other concerns.

^a The percentage for Design Management, Project Management, and Design Phase Contingency are estimates based on historical records and are preliminary estimates.

6. Schedule of Project Funding

(dollars in thousands)

	Prior Years	FY 2003	FY 2004	FY 2005	Outyears	Total
Project Cost						
Facility Cost						
Project Engineering and Design.....	0	0	1,200	3,164	700	5,064
Total, Line Item TEC.....	0	0	1,200	3,164	700	5,064
Total, Facility Costs (Federal and Non-Federal)	0	0	1,200	3,164	700	5,064
Other Project Costs						
Conceptual design costs.....	0	605	350	50	0	1,005
NEPA.....	0	5	5	5	0	15
Other project-related costs.....	0	0	0	375	1,410	1,785
Total, Other Project Costs.....	0	610	355	430	1,410	2,805
Total, Project Costs.....	0	610	1,555	3,594	2,110	7,869

04-D-125, Chemistry and Metallurgy Research Facility Replacement Project, Los Alamos National Laboratory Los Alamos, New Mexico

Significant Changes

- The construction line item funding profile has been modified to reflect the FY 2004 Appropriation that reduced funding by \$10,500,000, as well as a reduction of \$51,000,000 to what had been planned for FY 2005. The large reduction to the FY 2005 request was necessary to address other high priority NNSA requirements (e.g., implementation of the new Design Basis Threat). The reductions in FY 2004-05 impact the out-year funding profile and schedule for this project, and as a result the project will be re-evaluated and revised during FY 2004. The changes will be reflected in the FY 2006 request.

Further, as part of the re-evaluation of this project, the National Nuclear Security Administration (NNSA) will conduct an analysis of the Total Estimated Cost/Total Project Cost (TEC/TPC), that are being developed as the planning phase continues. The analysis is required in order to validate early estimates that indicate that the TEC and TPC could be at the higher end of the pre-conceptual baseline range, which is higher than the estimate in Section 1. Updated estimates will be provided in the FY 2006 request.

Finally, preliminary schedule data for the project has been revised to be consistent with continued project development; however, the overall project schedule will be adjusted, as necessary, as part of the NNSA re-evaluation of the project and any changes will be reflected in the FY 2006 request.

- The cost of project engineering and design (PE&D) for preliminary design for this project has increased by \$10,000,000. A full (preliminary and final) Design-Build (D-B) approach for most project activities was the basis for the initial PE&D estimate. The reduction in line item funding in FY 2004-05 has required an alternative approach in order to minimize overall schedule delays. The revised approach will utilize separate preliminary designs, where possible, for all project activities and will rely on Los Alamos National Laboratory (LANL) to conduct more preliminary design work, rather than procuring these services under full D-B contracts. The PE&D funding request in FY 2005 will support continuation of preliminary design and engineering work for all project elements.
- FY 2004 line item construction funding will be used to implement the D-B acquisition of the Radiological Laboratory/Utility/Office Building (RLUOB) component of the Chemistry and Metallurgy Research Facility Replacement (CMRR). The FY 2005 request for construction funds will support continuation of the RLUOB and initiation of the D-B activities for Special Facility Equipment (SFE) - Gloveboxes. Initiation of the Security Category I, Hazard Category 2 Nuclear Facility is planned for FY 2006.

1. Construction Schedule History ^a

	Fiscal Quarter				Total Estimated Cost ^b (\$000)	Total Project Cost (\$000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 2004 Budget Request (<i>Preliminary Estimate</i>).....	1Q 2004	3Q 2006	2Q 2004	1Q 2011	500,000	600,000
FY 2005 Budget Request (<i>Preliminary Estimate</i>).....	3Q 2004	3Q 2007	3Q 2005	3Q 2012	500,000	600,000

^a The TEC and TPC for this project are being developed as the planning phase continues. Early indications are that the TEC and TPC are at the higher end of the pre-conceptual baseline range, which is higher than the estimate in Section 1. Updated estimates will be provided in the FY 2006 request. In addition, physical construction start/complete dates will be impacted by FY 2004 and FY 2005 funding reductions. The NNSA is evaluating the impacts of the funding reductions and will provide a new profile and schedule in the FY 2006 request.

^b The TEC includes the cost of preliminary design (\$24,500,000) appropriated in 03-D-103, Project Engineering and Design (PED).

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
Design^a			
2003	0 ^b	0	0
2004	4,500 ^c	10,825	10,000
2005	13,675	13,675	14,500
Construction			
2004	10,000 ^c	10,000	7,500
2005	24,000	24,000	24,500
2006	110,000	110,000	70,000
2007	100,000	100,000	95,000
2008	100,000	100,000	95,000
2009	80,000	80,000	95,000
2010	51,500	51,500	86,700
2011	0	0	1,800

3. Project Description, Justification, and Scope

Project Description

The Chemistry and Metallurgy Research Facility Replacement (CMRR) Project seeks to relocate and consolidate mission critical analytical chemistry, material characterization, and actinide research and development capabilities, to ensure continuous national security mission support beyond 2010 at the LANL.

Project Justification

In January 1999, the NNSA approved a strategy for managing risks at the Chemistry and Metallurgy Research (CMR) Facility. This strategy recognized that the 50-year-old CMR Facility could not continue its mission support at an acceptable level of risk to public and worker health and safety without operational restrictions. In addition, the strategy committed NNSA and LANL to manage the existing CMR Facility to planned end of life on or around 2010, and to develop long-term facility and site plans to replace and relocate CMR capabilities elsewhere at LANL, as necessary to maintain support of national security missions. CMR capabilities are currently substantially restricted and unplanned facility outages have resulted in the operational loss of two of seven wings at the CMR Facility. These

^a Design funding was appropriated in 03-D-103, PED.

^b Original appropriation was \$10,000,000. This was reduced by \$64,000 by a rescission and by \$227,000 by the Weapons Activities general reduction enacted by P.L. 108-7, FY 2003 Omnibus Appropriations Act, Title VI. The appropriation was further decreased by \$3,384,000 for a reprogramming. Finally, the FY 2004 Appropriation Act use of PY balances reduction eliminated the remaining \$6,325,000, but the funding is required by the project and NNSA plans to restore it with a reprogramming action during FY 2004. The obligations and costs assume this reprogramming action.

^c The FY 2004 appropriated amounts have not been adjusted for the FY 2004 Congressional Omnibus Appropriations Bill rescission of .59 percent.

operational restrictions preclude the full implementation of the level of operations DOE/NNSA requires as documented through the Record of Decision for the 1999 LANL Site-Wide Environmental Impact Statement, and the 1996 Stockpile Stewardship and Management Programmatic Environmental Impact Statement. The CMRR project will relocate mission-critical CMR capabilities at LANL to sustain national security missions at LANL while reducing risks to the public and workers.

Project Scope

As currently envisioned, the CMRR project consists of three primary elements. These elements define the basic scope and drive the acquisition strategy.

- Radiological Laboratory/Utility/Office Building (RLUOB): Construction of a facility(s) to house light laboratory of approximately 20,000 net square feet capable of handling radiological (<8.4g Pu²³⁹ equivalent) quantities of Special Nuclear Materials (SNM), a utility building sized to provide utility services (including heating and chilled water, potable hot/cold water, compressed air, and process gasses) for all CMRR facility elements, and office space for CMRR workers located outside of perimeter security protection systems. The RLUOB is the initial element of the CMRR and will be completed under a Design-Build (D-B) approach.
- CMRR Nuclear Laboratory(s): Construction of a facility(s) of approximately 45,000^a net square feet to house Hazard Category II (approximately 22,000 net sq. ft.) and Hazard Category III (approximately 23,000 net sq. ft) nuclear laboratory space for Actinide Chemistry/Material Characterization (AC/MC) operations, SNM Storage, large vessel handling capability and associated mission contingency space located behind perimeter security protective systems. The nuclear laboratories will follow the RLUOB and will be completed through a modified D-B acquisition procurement.
- Special Facilities Equipment (SFE) - Gloveboxes: Includes design/procurement for Special Facilities Equipment (gloveboxes and long-lead AC/MC equipment) for CMRR nuclear laboratory(s). The SFE – Gloveboxes element will be conducted in parallel with the nuclear laboratories.

Project Milestones

FY 2004:	Critical Decision 2/3, Performance Baseline for RLUOB (Design-Build)	4Q
FY 2005:	Physical Construction Start, RLUOB	3Q
	Critical Decision 2/3, Performance Baseline for Nuclear Facility(s)	3Q

^a All space estimates cited were identified through joint NNSA/LANL Integrated Nuclear Planning Activities and are preliminary pending further project development.

4. Details of Cost Estimate

(dollars in thousands)		
	Current Estimate	Previous Estimate
Design Phase (4.9% of TEC) ^a	24,500...	14,500
Construction Phase.....		
Buildings	358,500.....	368,500
Construction Management (1.4% of TEC)	7,000	7,000
Project Management (5.0% of TEC)	25,000	25,000
Total, Construction Costs (78.1% of TEC)	390,500	400,500
Contingencies		
Construction Phase (17.0% of TEC).....	85,000	85,000
Total, Line Item Costs (TEC) ^b	<u>500,000....</u>	<u>500,000</u>

5. Method of Performance

The CMRR Acquisition Strategy currently anticipates use of a design/build procurement contract awarded after the completion of preliminary design activities for the Radiological Laboratory/Utility/Office Building and SFE-Gloveboxes project elements. Additionally, potential use of a design/build procurement contract for the CMRR Nuclear Facility(s) element awarded during final design activities is being evaluated as part of Acquisition Strategy development. The CMRR Acquisition Strategy will be approved in conjunction with Critical Decision 1, planned for March 2004.

^a Design funding was appropriated in 03-D-103, PED.

^b This is a preliminary estimate. The performance baseline will be established following completion of preliminary design and approval of Critical Decision 2 (CD-2). On December 12, 2003, the NNSA met to discuss options of conceptual design scope to be selected at CD-1 and to be further developed during preliminary design. The funding to support the preliminary scope of work will require revision to this CDPS for FY 2006 and beyond.

6. Schedule of Project Funding

	Prior Years	FY 2003	FY 2004	FY 2005	Outyears	Total
Project Costs						
Facility Costs						
Design	0	0	10,000	14,500	0	24,500
Construction	0	0	7,500	24,500	443,500	475,500
Total, Line Item TEC	0	0	17,500	39,000	443,500	500,000
Other Project Costs						
Conceptual Design Cost	2,200	9,525	5,300	0	0	16,650
NEPA	200	1,025	100	0	0	1,700
Operational Readiness/Transition ...	0	0	0	0	45,700	45,700
Other Project-Related Costs	5,250	0	1,000	5,000	24,700	35,950
Total Other Project Costs ^a	7,650	10,550	6,400	5,000	70,400	100,000
Total Project Cost (TPC)	7,650	10,550	23,900	51,700	506,200	600,000

7. Related Annual Funding Requirements

	(FY 2004 dollars in thousands)	
	Current Estimate	Previous Estimate
Related annual costs (estimated life of project – 30 years) ^b	TBD	TBD
Annual facility operating costs.....	TBD	TBD
Facility maintenance and repair costs.....	TBD	TBD
Programmatic operating expenses directly related to the facility.....	TBD	TBD
Programmatic capital equipment not related to construction.....	TBD	TBD
Utility costs.....	TBD	TBD
Total related annual funding (operating FY2004 through FY2033)	TBD	TBD

^a Prior year OPC costs were updated to reflect actual costing per element noted above.

^b Facility operating costs will be developed during preliminary design.

04-D-126, Building 12-44 Production Cells Upgrade Pantex Plant, Amarillo, Texas

Significant Changes

- This project is still in the Planning Phase. As a result, the cost and schedule are preliminary estimates and are subject to change once the Performance Baseline is approved by the Acquisition Executive at the completion of the preliminary design (Critical Decision 2).
- The preliminary baseline was established in June 2003, which resulted in the following revisions:
 - Total Project Cost (TPC) was reduced by \$2,342,000 from \$16,840,000 to \$14,498,000.
 - Total Estimated Cost (TEC) was increased by \$2,568,000 from \$11,380,000 to \$13,948,000. This included a reduction in design of \$1,550,000 and an increase in construction of \$4,118,000.
 - Other Project Cost (OPC) was reduced by \$4,910,000 from \$5,460,000 to \$550,000.
 - Design start was delayed from 2Q 2003 to 3Q 2003.

These revisions incorporate adjustments to project scope, efficiencies, and contingencies to address identified project risks (e.g., increased security conditions). Previously appropriated Project Engineering and Design (PED) funding that is no longer required to complete design is planned to be reprogrammed to construction to support establishment of the performance baseline in FY 2004. Scope, cost, and schedule data have been revised consistent with the preliminary baseline and the projected reprogramming.

1. Construction Schedule History

	Fiscal Quarter				Total Estimated Cost (\$000) ^a	Total Project Cost (\$000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 2004 Budget Request (<i>Preliminary Estimate</i>)	2Q 2003	4Q 2004	1Q 2005	1Q 2007	11,380	16,840
FY 2005 Budget Request (<i>Preliminary Estimate</i>)	3Q 2003	4Q 2004	1Q 2005	1Q 2007	13,948	14,498

^a The TEC includes the cost of preliminary and final design (\$1,050,000), which was appropriated in 02-D-103, Project Engineering and Design.

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations ^a	Costs ^a
Design ^b			
2002	1,500	0	0
2003	1,068 ^c	493	67
2004	0	557	983
Construction			
2004	8,780 ^d	10,298	0
2005	2,600	2,600	5,647
2006	0	0	5,645
2007	0	0	1,606

3. Project Description, Justification, and Scope

Project Description

The Building 12-44 Production Cells Upgrade will provide a crucial asset in meeting the Department of Energy/National Nuclear Security Administration (DOE/NNSA) objective of maintaining confidence in the nuclear weapons stockpile. This project will provide modifications to an existing facility to increase capacity to meet the impact of changing weapon complexity, projected workload, and life extension project activities. The W76 Life Extension Program (LEP) is the first user to benefit from this additional capacity with other programs to follow.

This project will lessen the cell shortfall by modifying five cells in Building 12-44. The project scope consists of upgrading these cells to the same production capability/capacity level as other cells at Pantex. The modifications to each of the five cells include upgrades to the heating, ventilation, and air conditioning (HVAC), material handling, fire protection, lighting, lightning protection, electrical power, containment structure, finish, and other building systems.

In addition, other scope elements are being evaluated within the design phase for potential inclusion as opportunity investments that will reduce future downtime and operational costs and are cost effective to perform while the facilities are down for construction. A decision on inclusion of these items in the

^a Consistent with the preliminary baseline, the total estimated PED funding requirement to complete design is \$1,050,000. It is planned that \$1,518,000 of the PED funding will be reprogrammed to the construction line item to support establishment of the performance baseline in FY 2004. The obligations and costs assume the reprogramming.

^b Design funding was appropriated in 02-D-103, PED.

^c Original appropriation was \$1,100,000. This was reduced by \$7,000 by a rescission and by \$25,000 by the Weapons Activities general reduction enacted by P.L. 108-7, FY 2003 Omnibus Appropriations Act, Title VI.

^d The FY 2004 appropriated amount has not been adjusted for the FY 2004 Congressional Omnibus Appropriations Bill rescission of .59 percent.

construction scope will be made after a complete evaluation of project contingency needs as part of the establishment of the performance baseline.

Project Milestones

FY 2004: Establish Performance Baseline (Critical Decision 2)

3Q

4. Details of Cost Estimate

(dollars in thousands)		
	Current Estimate	Previous Estimate
Total, Design Phase (7.5 % of TEC) ^a	1,050	2,600
Construction Phase		
Improvements to Land.....	0	40
Buildings	7,034	5,510
Construction Management (7.2 % of TEC)	1,017	580
Project Management (2.6 % of TEC).....	364	250
Total, Construction Costs (60.3 % of TEC).....	8,415	6,380
Contingencies		
Construction Phase (32.1 % of TEC)	4,483	2,400
Total, Line Item Costs (TEC) ^b	13,948	11,380

5. Method of Performance

The design services (Title I, II, III) will be accomplished by an outside Architect-Engineering (A-E) firm and will be administered by the Managing and Operating (M&O) Contractor, BWXT Pantex, LLC. The construction services of this project will be performed by an outside construction contractor operating under a contract to be awarded on the basis of competitive bids. This contract will be administered by the M&O Contractor (BWXT Pantex, LLC). Construction Management Services will be performed by the M&O Contractor (BWXT Pantex, LLC). Best value practices have been used for design and will be considered for construction services.

^a Design funding was appropriated in 02-D-103, PED.

^b This is a preliminary baseline estimate. The performance baseline will be established following completion of preliminary design and approval of Critical Decision 2. Estimate reflects reprogramming of \$1,518,000 of PED funds, that are no longer required for design, to construction consistent with the preliminary baseline.

6. Schedule of Project Funding

(dollars in thousands)						
	Prior Years	FY 2003	FY 2004	FY 2005	Outyears	Total
Project Costs						
Facility Costs						
Design	0	67	983	0	0	1,050
Construction	0	0	0	5,647	7,251	12,898
Total, Line Item TEC.....	0	67	983	5,647	7,251	13,948
Total Facility Costs (Federal and Non-Federal).....	0	67	983	5,647	7,251	13,948
Other Project Costs						
Conceptual design cost.....	113	209	0	0	0	322
NEPA	2	0	0	0	0	2
Other project-related costs.....	0	20	27	0	179	226
Total Other Project Costs	115	229	27	0	179	550
Total Project Cost (TPC)	115	296	1,010	5,647	7,430	14,498

7. Related Annual Funding Requirements

(FY 2005 dollars in thousands)		
	Current Estimate	Previous Estimate
Related annual costs (estimated life of project--30 years)		
Annual facility operating costs.....	400	400
Facility maintenance and repair costs.....	320	320
Programmatic operating expenses directly related to the facility.....	1,500	1,500
Programmatic capital equipment not related to construction	350	350
Utility costs	325	325
Total related annual funding (operating from FY 2005 through FY 2033).....	2,895	2,895

04-D-127, Capability for Advanced Loading Missions Savannah River Site, Aiken, South Carolina

Significant Changes

- In FY 2002/2003, the Capability for Advanced Loading Missions (CALM) (formerly titled Cleaning and Loading Modifications) project underwent extensive program evaluation. Reviews resulted in a modified approach that delivers a better balance between the capabilities and capacities required in the near-term for the life extension projects and the future projected needs of the weapons program. The additional design alternatives resulted in a total conceptual cost approaching the \$3,000,000 congressional limit. This limit may be exceeded if further conceptual design activity is required to support Critical Decision 1.
- The project has been delayed and will now begin design in the first quarter of FY 2005. The funding appropriated in FY 2004 supports long-lead procurements of components that will be initiated in FY 2005 and FY 2006. The early procurement will occur prior to establishing the Performance Baseline and will be approved by the Acquisition Executive at Critical Decision 3A (CD-3A). These procurements support long-lead engineered equipment which must be initiated in FY 2005 to support an FY 2006 construction start.
- The conceptual project baseline has been revised as follows:
 - The Total Estimated Cost (TEC) increased slightly by \$220,000 and the Total Project Cost (TPC) decreased by \$1,020,000.
 - The project title has been changed from Cleaning and Loading Modifications to Capability for Advanced Loading Missions to more accurately reflect the revised mission and program requirements.
 - The Architect-Engineering (A-E) Work Initiated date has changed from the third quarter of FY 2003 to the first quarter of FY 2005 to address the additional program evaluation and project alternatives development, and the delay in the start of the project. The addition of advanced capabilities and the combined cleaning and loading system simplifies construction but increased the overall engineering detail required thereby increasing the A-E cost.

These revisions incorporate modifications to project scope driven by changes in program requirements and priorities.

- Funding previously appropriated for design in Project Engineering and Design (PED) line item 02-D-103 for this project in FY 2002 and FY 2003 was reprogrammed for other Department of Energy requirements.
- The project is still in the planning phase. As a result, the cost and schedule are preliminary estimates and are subject to change once the Performance Baseline is approved by the Acquisition Executive at the completion of the preliminary design (CD-2).

1. Construction Schedule History

	Fiscal Quarter				Total Estimated Cost ^a (\$000)	Total Project Cost (\$000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 2004 Budget Request (Preliminary Estimate).....	3Q 2003	1Q 2005	1Q 2005	3Q 2007	37,000	56,000
FY 2005 Budget Request (Preliminary Estimate).....	1Q 2005	4Q 2006	4Q 2006	1Q 2009	37,000	54,980

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
Design^b			
2004	1,750 ^c	0	0
2005	5,250	7,000	5,083
2006	3,150	3,150	5,067
Construction			
2004	2,750 ^c	0	0
2005	0	2,750	1,923
2006	4,001	4,001	4,828
2007	11,045	11,045	11,000
2008	8,875	8,875	8,800
2009	399	399	519

^a The TEC includes the cost of preliminary and final design (\$10,150,000), appropriated in 02-D-103, PED.

^b Design funding was appropriated in 02-D-103, PED. Funding appropriated in FY 2002 (\$1,000,000) and FY 2003 (\$3,399,000 – original appropriation of \$3,500,000 which was reduced by \$22,000 by rescission and by \$79,000 by the Weapons Activities general reduction enacted by P.L. 108-7, FY 2003 Omnibus Appropriations Act, Title VI) was eliminated by a reprogramming for OVEC enacted in the FY 2004 Appropriations Act (\$3,500,000), and by a proposed reprogramming for the Departmental commitment for EEOICPA (\$899,000).

^c The FY 2004 appropriated amounts have not been adjusted for the FY 2004 Congressional Omnibus Appropriations Bill rescission of .59 percent.

3. Project Description, Justification, and Scope

Project Description

The Capability for Advanced Loading Missions (CALM) project supports the mission of the National Nuclear Security Administration (NNSA) to maintain the nuclear weapons stockpile, without underground nuclear testing, to meet national security requirements. This mission is encompassed in the DOE Stockpile Stewardship Program (SSP), that ensures the operational readiness of the nuclear weapons through the Directed Stockpile Work (DSW) activities. The DSW program conducts surveillance, maintenance, design, and manufacturing activities required to maintain the nuclear weapons stockpile and to certify the stockpile remains safe, secure, and reliable. Investment in advanced capabilities for the future is essential to ensure the long-term capabilities to accurately assess weapon status and reliability.

The objective of the CALM Project is to provide Savannah River Site (SRS) tritium facilities with the capability and capacity to process the converted W80, W76, and W87 weapons systems tritium reservoirs. This project will modify an existing reservoir loading line to enable cleaning and loading of these new reservoirs as well as add unloading capabilities. The combination of cleaning and loading is a modified approach to the Critical Decision 0 project scope definition and has resulted in a reduction in TPC. OPC requirements have been reduced. The objective is in support of the nuclear weapons life extension projects and will be accomplished while maintaining the limited life component exchange requirements for tritium reservoir loading and unloading. These capability and capacity requirements are given in the NNSA Production and Planning Directive (P&PD) 2001-0, dated February 2001, P&PD 2002-0, and P&PD 2003-0.

Project Milestones:

FY 2005	Initiate Long-Lead Procurement (CD-3A)	4Q
FY 2006	Establish Performance Baseline (CD-2)	1Q
FY 2006	Start Construction (CD-3B)	4Q
FY 2009	Approval Start of Operations (CD-4)	4Q

4. Details of Cost Estimate ^{a b}

(dollars in thousands)

	Current Estimate	Previous Estimate
Total, Design Costs (27.3% of TEC)	10,150	6,250
Construction Phase		
Buildings	8,166	14,000
Standard Equipment	6,195	2,750
Construction Management (7.0% of TEC)	2,589	4,500
Project Management (10.9% of TEC)	4,068	2,500
Total, Construction Costs (56.5% of TEC)	21,018	23,750
Contingencies		
Construction Phase (16.3x% of TEC)	6,052	7,000
Total, Line Item Costs (TEC)	37,220	37,000

5. Method of Performance

Design, construction and procurement is planned to be accomplished by the Management and Operating (M&O) contractor (Westinghouse Savannah River Corporation--WSRC). Specific scopes of work within this project are planned to be accomplished by fixed-price contracts awarded on the basis of competitive bidding.

6. Schedule of Project Funding

(dollars in thousands)

	Prior Years	FY 2003	FY 2004	FY 2005	Outyears	Total
Project Costs						
Facility Costs						
Design	0	0	0	5,083	5,067	10,150
Construction	0	0	0	1,923	25,147	27,070
Total, Line Item TEC	0	0	0	7,006	30,214	37,220
Other Project Costs						
Conceptual design cost	1,118	1,381	261	0	0	2,760
Other project-related costs	0	0	0	1,019	13,981	15,000
Total Other Project Costs	1,118	1,381	261	1,019	13,981	17,760
Total Project Cost (TPC)	1,118	1,381	261	8,025	44,195	54,980

^a Design funding was appropriated in 02-D-103, PED.

^b This is a preliminary estimate. The Performance Baseline will be established following completion of preliminary design and approval of CD-2.

7. Related Annual Funding Requirements

(FY 2003 dollars in thousands)

	Current Estimate	Previous Estimate
Annual facility operating costs	1,000	10,000
Total related annual funding (operating from FY 2009 through FY 2039)	1,000	10,000

04-D-128, TA-18 Mission Relocation

Los Alamos National Laboratory

Nevada Test Site, Nevada

Significant Changes

- Due to the dynamic nature of the missions performed at Technical Area (TA)-18, conceptual design activities are now expected to be completed in late FY 2004 as preliminary estimates warranted a re-examination of program and project requirements to contain total project costs. Preliminary reviews of the conceptual design have not completely contained project costs and schedule within current funding profiles outlined in this data sheet. As such, the National Nuclear Security Administration (NNSA) senior management will conduct a detailed review of the conceptual design during the second quarter of FY 2004. The review will focus on three key areas: validating the proposed baseline range, assessing the appropriateness of placing some activities within the project versus program, and selecting a project management structure. The results of this review and the approved path forward for this project will be documented in a revised project data sheet that will be provided to Congress.
- This data sheet incorporates prior year Other Project Costs (OPCs) for conceptual design activities and environmental studies.

1. Construction Schedule History

	Fiscal Quarter				Total Estimated Cost (\$000) ^a	Total Project Cost (\$000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 2004 Budget Request (Preliminary Estimate).....	1Q 2004	4Q 2005	4Q 2004	2Q 2008	111,000	130,000
FY 2005 Budget Request (Preliminary Estimate).....	3Q 2004	TBD	TBD	TBD	TBD	TBD

^a The TEC includes the cost of preliminary and final design appropriated in 01-D-103, PED. This is a preliminary baseline estimate. The performance baseline will be established following completion of preliminary design and Critical Decision 2 (CD-2).

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
Design ^a			
2001	998 ^b	0	0
2002	6,426	0	0
2003	0	0	0
2004	1,600 ^c	TBD	TBD
2005	6,000	TBD	TBD
2006	0	TBD	TBD
Construction			
2004	8,820 ^c	TBD ^d	0
2005	0	TBD	TBD
2006	22,000	TBD	TBD
2007	22,000	TBD	TBD
2008	22,000	TBD	TBD
2009	21,156	TBD	TBD

3. Project Description, Justification, and Scope

The goal of the TA-18 Mission Relocation Project (MRP) is to provide a secure, modern location for conducting general-purpose nuclear materials handling activities currently conducted at Los Alamos National Laboratory (LANL). TA-18 is the sole remaining facility in the United States capable of performing general-purpose nuclear materials handling experiments and conducting training essential to support national security missions including: (1) research and development (R&D) of technologies in support of Homeland Defense and counter-terrorism initiatives; (2) continued safe and efficient handling and processing of fissile materials; (3) development of technologies vital to implementing arms control and nonproliferation agreements; (4) development of emergency response technologies for response to terrorist attacks and other emergencies; and (5) training for criticality safety professionals, fissile materials handlers, emergency responders, International Atomic Energy Agency professionals, and other Federal and State organizations charged with Homeland Defense responsibilities. The need for this

^a Design accomplished in 01-D-103, Project Engineering and Design (PED).

^b The FY 2001 Appropriations Act designated \$1,000,000 for initiation of design activities for relocation of TA-18 Nuclear Materials Handling Facility at LANL. The original appropriation was \$1,000,000. This was reduced by \$2,000 by a rescission enacted by Section 1403 of the FY 2001 Consolidated Appropriations Act.

^c The FY 2004 appropriated amounts have not been adjusted for the FY 2004 Congressional Omnibus Appropriations Bill rescission of .59 percent.

^d If a decision is made to proceed with this project, some portion of the \$8,820,000 for construction would be reprogrammed to PED funds.

project is based on the projected large capital investment for security and infrastructure upgrades required over the next 10 years to remain at TA-18. The NNSA completed environmental reviews and technical and cost studies to evaluate siting options for the TA-18 missions, and designated that the preferred alternative is to relocate a portion of the TA-18 missions to the Device Assembly Facility (DAF) at the Nevada Test Site with the remaining missions residing at LANL. Given the change in direction, conceptual design activities are required to develop detailed project scope, schedules, and budget; however, it is anticipated that this project will include capabilities to house and operate critical assemblies, store associated special nuclear material, and provide infrastructure to support criticality training and detection development activities.

Project Milestones

Complete Conceptual Design	3Q 2004
Complete Preliminary Design (Title I)	TBD
Complete Final Design (Title II)	TBD
Complete Construction (Title III)	TBD
Transition/Closeout	TBD

4. Details of Cost Estimate

(dollars in thousands)

	Current Estimate	Previous Estimate
Total, Design Phase ^a	TBD	21,024
Construction Phase		
Improvements to Land	TBD	TBD
Buildings	TBD	TBD
Standard Equipment	TBD	TBD
Inspection, Design and Project Liaison, Testing, Checkout and Acceptance	TBD	TBD
Construction Management	TBD	TBD
Project Management	TBD	TBD
Total Construction Costs	TBD	TBD
Contingencies		
Construction Phase	TBD	TBD
Total, Line Item Costs (TEC)	TBD	111,000

^a The TEC includes the cost of preliminary engineering and final design appropriated in 01-D-103, PED. This is a preliminary baseline estimate. The performance baseline will be established following completion of preliminary design and Critical Decision 2 (CD-2).

5. Method of Performance

An acquisition execution plan will be developed during Conceptual Design. Conceptual design activities are assessing the potential to accelerate key project activities in FY 2004, pending the Critical Decision 1 outcome. Options under consideration include construction outside the DAF proper; design, procurement and/or modification of critical assemblies and other equipment; and/or design and procurement of transportation containers.

6. Schedule of Project Funding

(dollars in thousands)

	Prior Years	FY 2003	FY 2004	FY 2005	Outyears	Total
Project Costs						
Facility Costs						
Design		0	0	0	TBD	TBD
Construction		0	0	0	0	TBD
Total, Line item TEC ^a		0	0	0	TBD	TBD
Total Facility Costs (Federal and Non-Federal)		0	0	0	TBD	TBD
Other Project Costs						
Other project related costs		7,700	5,957	700	TBD	TBD
Total, Other Project Costs		7,700	5,957	700	TBD	TBD
Total Project Cost (TPC)		7,700	5,957	700	TBD	TBD

^a The TEC includes the cost of preliminary engineering and final design appropriated in 01-D-103, PED. This is a preliminary baseline estimate. The performance baseline will be established following completion of preliminary design and CD-2.

7. Related Annual Funding Requirements

(FY 2004 dollars in thousands)

Current Estimate	Previous Estimate
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Related annual costs (estimated life of project--30 years) ^a

Annual facility operating costs.....	TBD	TBD
Facility maintenance and repair costs.....	TBD	TBD
Programmatic operating expenses directly related to the facility.....	TBD	TBD
Programmatic capital equipment not related to construction	TBD	TBD
Utility costs.....	TBD	TBD
Total related annual funding (operating from FY 2004 through FY 2033).....	TBD	TBD

^a Facility operating costs will be developed during the Title I Design.

03-D-102, National Security Sciences Building (NSSB), Los Alamos National Laboratory, Los Alamos, New Mexico

Significant Changes

- This project was proposed as an FY 2004 new start under line item 04-D-104. Congress appropriated funding in FY 2003 under line item 03-D-102. This request continues funding for the project under the line item established in FY 2003.
- This data sheet has been revised to reflect the three distinct phases of this project. Phase I is the construction of the new National Nuclear Security Sciences Building, Phase II is the construction of the Los Alamos Site Office (LASO) Office Building, and Phase III is the decommissioning and demolition (D&D) of the existing SM-43 Administration Building.
- Changes to the Total Estimated Cost (TEC) and Total Project Cost (TPC) amounts reflect escalation and increases in Davis-Bacon labor rates since the original estimate for the project was prepared. The funding amounts contained in this data sheet reflect detailed estimates for the Phase I portion of the project and rough order of magnitude estimates for Phase II and Phase III.
- The Performance Baseline for Phase I was approved on June 9, 2003, and is reflected in this data sheet. Phase II and Phase III are still in the Planning Phase. As a result, the cost and schedule are preliminary estimates and are subject to change pending approval of the Performance Baseline by the Acquisition Executive at completion of the preliminary design (Critical Decision 2).

1. Construction Schedule History

	Fiscal Quarter				Total Estimated Cost (\$000) ^a	Total Project Cost (\$000) ^a
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 2004 Budget Request (<i>Preliminary Estimate</i>)	1Q 2004	1Q 2006	3Q 2004	2Q 2007	95,000	118,700
FY 2005 Budget Request (<i>Current Estimate</i> ^b)	3Q 2003	2Q 2004	4Q 2003	1Q 2006	99,000	123,180

^a The TEC includes the cost of preliminary and final design and construction of Phase I (\$92,000,000), and the preliminary estimate for Phase II, design and construction of the LASO Office Building (\$7,000,000). The costs for Phase III, D&D of SM-43, are included as Other Project Costs within the TPC.

^b The Performance Baseline for Phase I was established on June 9, 2003. Phase II and Phase III are still in the Planning Phase. As a result, the cost and schedule are preliminary estimates and are subject to change pending approval of the Performance Baseline by the Acquisition Executive at completion of the preliminary design (Critical Decision 2).

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
Design/Construction			
2003	11,652 ^a	11,652	2,524
2004	50,000 ^b	50,000	55,000
2005	37,348	37,348	40,476
2006	0	0	1,000

3. Project Description, Justification, and Scope

Project Description

The Department of Energy (DOE) has tasked Los Alamos National Laboratory (LANL) with a core mission of enhancing global security by ensuring safety and confidence in the U.S. nuclear weapons stockpile, developing technical solutions to reduce the threat of weapons of mass destruction, and improving the environmental and nuclear materials legacy of the cold war. To carry out this enduring role in the Nation's nuclear weapons program requires LANL to develop/maintain a modern, safe, and reliable infrastructure. In support of this mission need, the National Security Sciences Building Project will replace the 45-year-old SM-43 Building that is no longer suitable as the primary LANL facility for weapons designers, theoretical/computational research, and general management.

The project will provide office and research space to house theoretical and applied physics, computational sciences, and the Laboratory's program and senior management functions in support of the NNSA's Stockpile Stewardship Program (SSP). The National Security Sciences Building Project will continue the development of the theoretical-computational core at LANL that was started in FY 1999 with the Strategic Computing Complex (SCC) and the Nonproliferation and International Security Center (NISC) projects. Additionally, the project will provide a replacement facility for the DOE/NNSA staff that is permanently assigned to Los Alamos. This new facility will allow the DOE/NNSA to proceed with the land transfer commitments that have been made previously with the county of Los Alamos.

Project Justification

The highest priority of the SSP is to ensure the operational readiness of the U.S. Nuclear weapons stockpile. The National Security Sciences Building Project will support this objective by providing modern productive facilities for theoretical and applied physics, computational science, program management and general management that will be important in ensuring stockpile readiness.

^a Original appropriation was \$12,000,000. This was reduced by \$76,000 by a rescission and by \$272,000 by the Weapons Activities general reduction enacted by P.L. 108-7, FY 2003 Omnibus Appropriations Act, Title VI.

^b The FY 2004 appropriated amount has not been adjusted for the FY 2004 Congressional Omnibus Appropriations Bill rescission of .59 percent.

Functional, safety and security obsolescence of the existing SM-43 Building is the primary reason that this project is required. The most problematic aspects are as follows:

- **Occupant Safety** – SM-43 has the highest level of occupancy of any building in Los Alamos. Codes and standards have evolved such that the building cannot economically be brought into compliance with today's requirements. The building structure does not meet current DOE or Uniform Building Code seismic requirements. A DOE/NNSA-sponsored structural evaluation, with peer review, indicates the seismic capacity is about 25% of that required by code. Should a design basis earthquake occur, it is anticipated that the SM-43 would experience extensive structural and non-structural damage, and/or collapse. To further support this assessment, recent work to support Executive Order 12941 indicates that SM-43 has the highest seismic risk at the Laboratory. The building design is also not consistent with current National Fire Protection Association life safety codes. For example, the corridors are used for return air plenums, the building lacks sufficient separation walls, and deficiencies in emergency egress requirements exist. The building also has multiple deficiencies regarding compliance with Americans with Disabilities Act requirements.
- **System Reliability** – Most of the major systems are in need of significant investment in order to assure continuation of operations. Building condition evaluations indicate that most of the building systems are inadequate and no longer meet standards for office and light laboratory use. These systems include electrical, mechanical, plumbing, and the building envelope. Not only are many of the systems required to meet demands unforeseen in the early 1950's, but system components are also failing due to age. With these component failures, it is becoming difficult to provide replacement parts. Programmatic work is now being disrupted.
- **Cost of Operations** – SM-43 cannot be operated indefinitely without significant investments for system replacements and upgrading. Although several upgrade projects e.g. fire protection and minor electrical safety upgrades, have been performed in SM-43, no significant "behind-the-wall" investments have been made. It is estimated that this 1955 building requires an additional \$445K/year in energy costs over that required for a modern building of similar size. With increasing age and system degradation, the routine maintenance costs have also increased. It has been estimated that a new facility could reduce the operation and maintenance costs by as much as 30% or by several million dollars per year. Estimates to refurbish the existing building exceed \$100 million.
- **Security** – Security concerns and the methods to counteract them have changed dramatically in the last 45 years. Need to know compartmentalization cannot be economically implemented in the existing SM-43 building due to the configuration of the electrical and ventilation systems. Compensatory measures needed to ensure the safety of building occupants under the current threat conditions are costly; additional alarm and sensor installation has been "after the fact" and is not optimized, thus increasing operating and maintenance costs. The SM-43 building characteristics make it expensive to meet today's physical and cyber security needs.
- **Work Environment** – An equally important consideration pertains to the building's most fundamental ergonomic deficiencies, or simply, the "human factor." Los Alamos is staffed with employees dedicated to DOE/NNSA missions who are living with the poor work environment, accepting the limitations of very little private space and the failing heating and cooling systems. However, many of these employees are nearing retirement, and the current

working conditions are having a negative impact on the Laboratory's ability to recruit new staff. The substandard work environment is impacting not only today's productivity, but also tomorrow's.

- **LASO** - The justification for replacing the DOE/NNSA Los Alamos Site Office (LASO) includes the inefficiencies caused by age, and the fact that the current structure is located on land which has been committed to the County of Los Alamos as a result of the land transfer agreement between DOE and the county. Additionally, the new structure will be located closer to the core of the National Laboratory, within the security perimeter, making communication between NNSA and the contractor more efficient.

Project Scope

Phase I: The National Security Sciences Building (NSSB) is currently planned to be located in TA-3, near the new Strategic Computing Complex and National and International Security Complex facilities. The project includes construction of approximately 275,000 square feet of office space that will house a staff of 700 (approximate) and the Laboratory's Central Records Management operations. The project will also construct a 400-space parking structure and a 600-seat auditorium.

Phase II: A new NNSA LASO building will be built to house approximately 125 - 135 people and includes open meeting rooms to facilitate interfacing with the general public. It will be sited in the TA-3 area near the core facilities of the Laboratory. The facility will have required communication and security features in order that the staff may perform their assigned actions within all existing regulations.

Phase III: The project will decommission and demolish (D&D) the existing SM-43 Administration Building. The D&D of the existing 315,000 square foot SM-43 Building is included as an institutionally funded other project cost (OPC) portion of the project.

Project Milestones:

Phase I NSSB

FY 2003	Establish Performance Baseline/Approve Start of Construction (CD-1/2/3 request)	3Q
	Award Design/Build contract	3Q
	Begin Early Utilities Construction	4Q
FY 2004	Begin Design/Build Construction	2Q
FY 2005	Begin Parking Structure Construction	2Q
	Complete Office Building Shell	3Q
FY 2006	Physical Construction Complete	1Q
	CD-4 Start Operations NSSB	2Q

Phase II LASO Building

FY 2004 Establish Performance Baseline (Critical Decision-2) 1Q

Phase III SM-43 D&D

FY 2006 Establish Performance Baseline (Critical Decision-2) 1Q

4. Details of Cost Estimate

(dollars in thousands)

	Current Estimate ^a	Previous Estimate
Design Phase		
Preliminary and Final Design costs (Design Drawings and Specifications)	5,759	5,668
Design Management costs (0.7% of TEC)	694	782
Project Management costs (1.9% of TEC)	1,901	1,624
Total, Design Costs (8.4% of TEC)	8,354	8,074
Construction Phase		
Improvements to Land	2,208	0
Buildings	59,743	60,544
Other Structures (Parking Structure)	6,047	5,846
Utilities	2,958	3,091
Standard Equipment	1,623	1,735
Removal less salvage	478	0
Inspection, design and project liaison, testing, checkout and acceptance (2.2% of TEC)	2,151	1,845
Construction Management (2.9% of TEC)	2,836	3,780
Project Management (3.7% of TEC)	3,674	3,130
Total, Construction Costs (82.5% of TEC)	81,718	79,971
Contingencies		
Design Phase (0.9% of TEC)	917	599
Construction Phase (8.1% of TEC)	8,011	6,356
Total, Contingencies (9.0% of TEC)	8,928	6,955
Total, Line Item Costs (TEC)	99,000	95,000

^a The cost estimate reflects detailed estimates for Phase I and rough order of magnitude estimates for Phase II and Phase III.

5. Method of Performance

Design, construction, and procurement of Phase I and Phase II will be accomplished by a competitive best value, fixed-price, and design-build contract. Design-build is a project delivery system where a single entity performs both the design and construction. Some advantages of design-build include a single source for construction activities, cost control and accountability. The Performance Baseline for Phase I was established at Critical Decision 2 (CD-2) on June 9, 2003, based on the selected Design/Build contractor's fixed-price proposal. Outside contractors, under fixed price contracts, will remove existing utilities located on the building sites and install new perimeter utilities, plus construct electrical services to the site. The characterization work for the decommissioning and demolition of SM-43 will be accomplished under a negotiated procurement with a pre-qualified contractor. The demolition work will be accomplished under a competitive solicitation from pre-qualified contractors. The design and construction of the NNSA LASO office building will be a separate procurement and will be managed by the NNSA.

6. Schedule of Project Funding

	Prior Years	FY 2003	FY 2004	FY 2005	Outyears	Total
Project Costs						
Facility Costs						
Design.....	0	2,524	6,747	0	0	9,271
Construction.....	0	0	48,253	40,476	1,000	89,729
Total, Line Item TEC.....	0	2,524	55,000	40,476	1,000	99,000
Total Facility Costs (Federal & Non-Federal)	0	2,524	55,000	40,476	1,000	99,000
Other Project Costs						
Conceptual design cost.....	1,642	603	0	0	0	2,245
NEPA documentation costs.....	127	5	0	0	0	132
Other ES&H Costs.....	23	10	0	0	0	33
Other project-related costs ^a	493	182	221	845	20,029	21,770
Total Other Project Costs.....	2,285	800	221	845	20,029	24,180
Total Project Cost (TPC).....	2,285	3,324	55,221	41,321	21,029	123,180

^a Costs include: Project Management, Quality Assurance, LIR Implementation, Project Execution Plan, Siting Studies, Estimating Support, Scheduling and Controls Support, Safeguards and Security Analysis, Design-Build Procurement, Source Selection work, Value Engineering Study, Fire Hazards Assessment, Permits, Administrative Support, Operations and Maintenance Support, Operating Manuals & Procedures, Operations Testing, Readiness Assessment, and D&D of SM-43.

7. Related Annual Funding Requirements

(FY 2000 dollars in thousands)

	Current Estimate	Previous Estimate
Annual facility operating costs ^a	2,160	2,160
Annual facility maintenance/repair costs ^b	2,160	2,160
Programmatic operating expenses directly related to this facility ^c	130,000	130,000
Utility costs	1,440	1,440
Total related annual funding (operating from FY 2006 through FY 2026)	135,760	135,760

^a The costs of operations are based on historical data and averages \$4/square foot/year for the Office Building and the Auditorium. A rate of \$2/square foot/year was used for the parking structure.

^b Based on projected annual costs for LANL site services subcontractor as derived from historical maintenance and repair costs for new LANL facilities.

^c Annual programmatic operating expenses are estimated based on representative operating expenses of 700 people. The majority of this funding is expected to come from DOE/DP for activities in support of the SSP.

03-D-103, National Nuclear Security Administration Project Engineering and Design (PED), Various Locations

Significant Changes

- The TEC for the project increased by a total of \$10,067,000:
 - The cost of project engineering and design (PE&D) for preliminary design for the Chemistry and Metallurgy Research Facility Replacement (CMRR) Project has increased by \$10,000,000. A full (preliminary and final) Design-Build (D-B) approach for most project activities was the basis for the initial PE&D estimate. The reduction in line item funding in FY 2004-05 has required an alternative approach in order to minimize overall schedule delays. The revised approach will utilize separate preliminary designs, where possible, for all project activities and will rely on Los Alamos National Laboratory (LANL) to conduct more preliminary design work, rather than procuring these services under full D-B contracts. The PE&D funding request in FY 2005 will support continuation of preliminary design and engineering work for all project elements. See project 04-D-125 for additional details on CMRR.
 - The cost of project engineering and design (PE&D) for the Building 12-64 Production Bays Upgrade increased by \$67,000 to cover design costs associated with additional scope identified as part of Critical Decision-1.
- The A-E Work Start date has slipped a year due to the re-evaluation of the Chemistry and Metallurgy Research Facility Replacement (CMRR) Project

1. Construction Schedule History

	Fiscal Quarter				Total Estimated Cost (\$000) ^a
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete	
FY 2003 Budget Request (<i>A-E and technical design only</i>).....	1Q 2003	4Q 2006	N/A	N/A	63,709
FY 2004 Budget Request (<i>A-E and technical design only</i>).....	3Q 2003	3Q 2006	N/A	N/A	23,209
FY 2005 Budget Request (<i>A-E and technical design only</i>).....	1Q 2004	3Q 2007	N/A	N/A	33,276

^a The TEC estimate is for design only for the subprojects currently included in this data sheet.

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
2003	1,106 ^a	1,106	0
2004	10,570 ^b	16,895	15,300
2005	15,275	15,275	17,976

3. Project Description, Justification, and Scope

This project provides for Architect-Engineering (A-E) services for several National Nuclear Security Administration (NNSA) construction projects, allowing designated projects to proceed from conceptual design into preliminary design and final design. The design effort will be sufficient to assure project feasibility, define the scope, provide detailed estimates of construction costs based on the approved design and working drawings and specifications, and provide construction schedules, including procurements. The designs will be extensive enough to establish performance baselines and to support construction or long-lead procurements in the fiscal year in which line item construction funding is requested and appropriated.

Conceptual design studies are prepared for each project using Operations and Maintenance (O&M) funds prior to receiving design funding under a PED line item. These conceptual design studies define the scope of the project and produce a rough cost estimate and schedule.

The FY 2003 PED design projects are described below. While not anticipated, some changes may occur due to continuing conceptual design studies or developments occurring after submission of this data sheet. These changes will be reflected in subsequent years. Preliminary estimates for the cost of preliminary and final design and engineering efforts for each subproject are provided, as well as very preliminary estimates of the Total Estimated Cost (TEC), including physical construction, of each subproject. The final TEC and the Total Project Cost (TPC) for each project described below will be validated and the Performance Baseline will be established at Critical Decision 2 (CD-2), following completion of preliminary design.

^a Original appropriation was \$11,139,000. This was reduced by \$71,000 by a rescission and by \$253,000 by the Weapons Activities general reduction enacted by P.L. 108-7, FY 2003 Omnibus Appropriations Act, Title VI. The appropriation was further decreased \$3,384,000 by a reprogramming. Finally, the FY 2004 Appropriation Act use of PY balances reduction eliminated \$6,325,000 from the CMRR subproject, but the funding is required and NNSA plans to restore it with a reprogramming action during FY 2004. The obligations and costs assume this reprogramming action.

^b The FY 2004 appropriated amount has not been adjusted for the FY 2004 Congressional Omnibus Appropriations Bill rescission of .59 percent.

FY 2003 Proposed Design Projects

03-01: Chemistry and Metallurgy Research Facility Replacement (CMRR) Project, LANL

Fiscal Quarter				Total Estimated Cost (Design Only (\$000))	Preliminary Full Total Estimated Cost Projection (\$000)
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
3Q 2004	3Q 2007	3Q 2005	3Q 2012	24,500	500,000-700,000

Fiscal Year	Appropriations	Obligations	Costs
2003	0 ^a	0	0
2004	4,500	10,825	10,000
2005	13,675	13,675	14,500

This subproject includes the design activities required to support the design-build acquisition strategy for the Chemistry and Metallurgy Research Facility Replacement (CMRR) Project at Los Alamos National Laboratory (LANL). The existing Chemistry and Metallurgy Research (CMR) building is a Hazard Category 2 nuclear facility that is over fifty years old. CMR actinide chemistry research capabilities are vital to fulfill several critical LANL missions, including but not limited to, pit rebuild, pit surveillance and pit certification. In January 1999, DOE approved a strategy for managing risks at the CMR facility. This approval committed DOE and LANL on a course to upgrade and temporarily continue to operate the CMR facility through approximately 2010 with operational limitations. This approval also committed DOE and LANL to develop long-term facility and site plans to ensure continuous mission support beyond the year 2010. It was acknowledged that mission support beyond 2010 may require new facilities.

Line item 04-D-125 includes the construction funding for this project.

^a Original appropriation was \$10,000,000. This was reduced by \$64,000 by a rescission and by \$227,000 by the Weapons Activities general reduction enacted by P.L. 108-7, FY 2003 Omnibus Appropriations Act, Title VI. The appropriation was further decreased \$3,384,000 by a reprogramming. Finally, the FY 2004 Appropriation Act use of PY balances reduction eliminated the remaining \$6,325,000, but the funding is required by the project and NNSA plans to restore it with a reprogramming action during FY 2004. The obligations and costs assume this reprogramming action.

03-02: Building 12-64 Production Bays Upgrade, PX

Fiscal Quarter				Total Estimated Cost (Design Only (\$000))	Preliminary Full Total Estimated Cost Projection (\$000)
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
1Q 2004	1Q 2006	4Q 2005	1Q 2007	2,876	23,000-32,000

Fiscal Year	Appropriations	Obligations	Costs
2003	1,106 ^a	1,106	0
2004	1,670	1,670	2,000
2005	100	100	876

This subproject includes the preliminary and final design for the Pantex Building 12-64 Production Bays Upgrade. This project will lessen the bay shortfall by modifying the bays in Building 12-64 and bringing 17 bays up to the same operational/capacity level as other bays at Pantex. The project will install systems necessary to allow any weapons program to be started in any of the bays in 12-64. Some of the systems installed or modified are the heating, ventilating, and air conditioning system, the dehumidification system, the building electrical system, the hoists and hoist support system, installation of a deluge system, and the installation of a task exhaust system.

The building 12-64 Production Bays Upgrade will provide a crucial asset in meeting the DOE objective of maintaining confidence in the nuclear weapons stockpile. This project will provide modifications to an existing facility to increase capacity to meet the impact of changing weapon complexity, projected workload, and life extension project activities.

Line item 05-D-401 includes the construction funding for this project.

03-03: Energetic Materials Processing Center, LLNL

Fiscal Quarter				Total Estimated Cost (Design Only (\$000))	Preliminary Full Total Estimated Cost Projection (\$000)
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
2Q 2004	4Q 2005	1Q 2006	4Q 2008	4,400	44,000-60,000

Fiscal Year	Appropriations	Obligations	Costs
2003	0	0	0
2004	2,900	2,900	2,500
2005	1,500	1,500	1,900

This subproject includes the preliminary and final design for the proposed Energetic Materials Processing Center (EMPC) project that replaces existing facilities and energetic material processing equipment that is quickly becoming obsolete and inadequate to meet the mission requirements at Lawrence Livermore National Laboratory (LLNL). This facility will support requirements of the

^a Original appropriation was \$1,139,000. This was reduced by \$7,000 by a rescission and by \$26,000 by the Weapons Activities general reduction enacted by P.L. 108-7, FY 2003 Omnibus Appropriations Act, Title VI.

Stockpile Stewardship Program, including the National Hydrotest Program, and help meet mission needs in research, development, and directed stockpile work that are not available in other parts of the NNSA/DOE Complex. The EMPC focus is on custom explosives parts, extremely precise assemblies, and work with non-standard weapon explosives. LLNL will continue to rely on Pantex for its explosives production needs. The new facility will be located at LLNL Site 300 and be used to support the Stockpile Stewardship Program. As currently planned, the facility will provide a total of approximately 34,400 gross square feet of space for energetic material machining, radiography, inspection and assembly with separate control rooms, magazines, and a technical support area. Co-location of these currently separate operations will increase efficiency and productivity. By incorporating modern energetic material protection and safety philosophies, the EMPC will be designed to provide an increased level of worker and personnel protection up to 75 kilograms of Class 1 Division 1 explosives. The assembly bays will be designed for 100 kilograms of Class 1 Division 1 explosives. This project will also have the additional benefit of vacating old energetic material facilities that are seriously degraded which will allow for further footprint reduction and reduction of maintenance backlog.

03-04: Tritium Facility Modernization, LLNL

Fiscal Quarter				Total Estimated Cost (Design Only (\$000))	Preliminary Full Total Estimated Cost Projection (\$000)
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
2Q 2004	4Q 2005	1Q 2006	3Q 2008	1,500	12,000-14,000

Fiscal Year	Appropriations	Obligations	Costs
2003	0	0	0
2004	1,500	1,500	800
2005	0	0	700

A hydrogen isotope research and development capability is needed at LLNL to enable its programs to meet mission objectives in stockpile stewardship and energy research. The proposed Tritium Facility Modernization (TFM) project will modernize the hydrogen isotope research and development capabilities at LLNL and provide an operational hydrogen isotope research capability to meet the mission needs. The modernized capability will focus on the behavior, properties, and uses of hydrogen and its isotopes under a variety of extreme conditions ranging from cryogenic to high temperatures and pressures. Addition of this capability supports stockpile stewardship specifically by providing necessary infrastructure for high energy density physics, weapons effects and tritium/materials R&D, including aging effects on stockpile materials and components, tritium shipping and handling, and reimbursable work-for-others. More generally, it restores an important element of LLNL Research & Development capability in nuclear weapons science and enhances the laboratory's core competency in this vital area. The inertial confinement fusion (ICF) research program at LLNL also requires the capability and other areas of research interest, such as hydride energy storage and tritium/environmental interactions, will benefit from it.

4. Details of Cost Estimate ^a

(dollars in thousands)

	Current Estimate	Previous Estimate
Design Phase ^b		
Preliminary and Final Design costs (Design Drawings and Specifications)	28,286	19,729
Design Management costs (10% of TEC)	3,330	2,320
Project Management costs (5% of TEC)	1,660	1,160
Total, Design Costs (100% of TEC)	33,276	23,209
Total, Line Item Costs (TEC, Design Only)	33,276	23,209

5. Method of Performance

Design services will be obtained through competitive and/or negotiated contracts. M&O contractor staff may be utilized in areas involving security, production, proliferation, etc. concerns.

6. Schedule of Project Funding

(dollars in thousands)

	Prior Years	FY 2003	FY 2004	FY 2005	Outyears	Total
Project Costs						
Facility Costs						
Project Engineering and Design	0	0	15,300	17,976	0	33,276
Total, Line Item TEC	0	0	15,300	17,976	0	33,276
Other Project Costs ^c						
Conceptual design cost	317	870	0	0	0	1,187
NEPA	0	25	50	0	0	75
Other project-related costs	54	115	70	0	2,970	3,209
Total Other Project Costs	371	1,010	120	0	2,970	4,471
Total Project Cost (TPC)	371	1,010	15,420	17,976	2,970	37,747

^a This cost estimate is based upon direct field inspection and historical cost estimate data, coupled with parametric cost data and completed conceptual studies and designs, when available.

^b The percentages for Design Management, Project Management, and Design Phase Contingency are estimates based on historical records and are preliminary estimates.

^c Once line item construction funding is requested, the Other Project Costs associated with the project are included in the construction data sheet and are no longer reflected here.

03-D-121 Gas Transfer Capacity Expansion, Kansas City Plant

Kansas City, Missouri

Significant Changes

- The project baseline was formally changed in January 2004 to incorporate reductions to project scope driven by changes in program requirements and priorities. This data sheet provides the new baseline which reflects the following changes:
 - TPC was reduced by \$14,179,000 from \$31,388,000 to \$17,209,000.
 - TEC was reduced by \$13,934,000 from \$30,200,000 to \$16,266,000.
 - The planned FY 2005 request of \$9,905,000 was deleted because it is no longer required to complete the project, and FY 2004 reflects the enacted FY 2004 appropriation reduction of \$4,000,000.

1. Construction Schedule History

	Fiscal Quarter				Total Estimated Cost ^a (\$000)	Total Project Cost (\$000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY2003 Budget Request (<i>Preliminary Estimate</i>).....	3Q 2002	4Q 2003	1Q 2003	2Q 2006	30,200	30,900
FY2004 Budget Request (<i>Preliminary Estimate</i>).....	3Q 2002	4Q 2003	1Q 2003	1Q 2006	30,200	31,388
FY2005 Budget Request (<i>Performance Baseline</i>).....	3Q 2002	1Q 2004	3Q 2003	1Q 2006	16,266	17,209

^a The TEC includes the cost of preliminary and final design of \$991,000 appropriated in 02-D-103, Project Engineering and Design.

2. Financial Schedule ^a

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
Design			
2002	300	300	163
2003	691 ^b	691	567
2004	0	0	261
Construction			
2003	3975 ^c	3,975	899
2004	11,300 ^d	11,300	10,020
2005	0	0	3,750
2006	0	0	606

3. Project Description, Justification, and Scope

Project Description

This project will provide the Kansas City Plant (KCP) with the required resources to support new designs in reservoir production in addition to the existing production schedules. It will provide the capital equipment and the facility modifications required to expand the current reservoir facility for new gas transfer system production.

The project will expand the current reservoir production department by approximately 7,000 square feet by extending the existing boundaries across an aisle and into the current Model Shop. This expansion area will house new weld and weld finishing equipment. Equipment such as finishing machines, welders, coordinate measuring machine, cleaning equipment, and inspection equipment will be procured as part of this project. The capital equipment plan includes both installation of new equipment and relocation of some existing equipment to improve production efficiency. In addition to this expansion, the A-Room will also be expanded within the existing Reservoir facility by approximately 200 square feet.

^a Design funding was appropriated in 02-D-103, Project Engineering and Design.

^b Original appropriation was \$695,000. This was reduced by \$4,000 for a rescission and \$16,000 for the Weapons Activities general reduction enacted by P.L. 108-7, FY 2003 Omnibus Appropriations Act, Title VI. The appropriation was increased by \$16,000 by a reprogramming.

^c Original appropriation was \$4,000,000. This was reduced by \$25,000 by a rescission and \$91,000 by the Weapons Activities general reduction enacted by P.L. 108-7, FY 2003 Omnibus Appropriations Act, Title VI. The appropriation was increased by \$91,000 by a reprogramming.

^d The FY 2004 appropriated amount has not been adjusted for the FY 2004 Congressional Omnibus Appropriations Bill rescission of .59 percent.

Project Justification

The W76 6.2 study has concluded that a need exists for a revised Acorn design and the W87 program is currently planning to implement Acorn during the Limited Life Component Exchange activities. The W80 Acorn, while currently on hold, is also authorized in Phase 6.3. Refurbishment program guidance indicates that the B61 also will require a new Acorn design.

The current gas transfer systems production facilities are not adequate to supply the proposed products. The new generation of gas transfer systems, identified in refurbishment program guidance, require more work than the existing reservoirs that they will replace. This increased workload creates an extensive capacity overload for the existing reservoir facility. The overload covers many years, and cannot be accommodated with existing equipment or a larger staff. Due to security requirements, it is not appropriate to outsource these products.

The current reservoir facility and equipment are at capacity and are inadequate to support the new designs in reservoir production in addition to the existing production schedules. Reservoir workload has already doubled from the original non-nuclear reconfiguration scope and the facility is currently operating two shifts. Additional floor space, beyond the current reservoir facility boundaries, is required for additional equipment. An adjacent facility for weld and weld finishing is required to meet peak reservoir production demands. The expanded capacity is required in FY 2006 in order to meet planned schedules for the W76 and the W80. Failure to have the facility will prevent the KCP from meeting this program schedule. The W76 program has an FY 2007 First Production Unit (FPU) from the KCP, and the W87 system has an FPU date of FY 2009 from the KCP. The W80 program has an FY 2006 FPU from the KCP. Design had to start in FY 2002 and construction in FY 2003 in order to have the facility operational in FY 2006. This expansion will accommodate all reservoir scenarios envisioned in refurbishment guidance and the Master Nuclear Schedule.

Project Milestones

FY 2002:	A-E Work Initiated	3Q
FY 2003:	Physical Construction Starts and Long Lead Procurements	3Q
FY 2004:	A-E Work Completed	1Q
FY 2006:	Physical Construction Complete	1Q

4. Details of Cost Estimate

(dollars in thousands)

	Current Estimate	Previous Estimate
Total, Design Phase (6.1% of TEC) ^a	991	995
Construction Phase		
Buildings	1,240	4,010
Standard Equipment	10,600	19,375
Inspection, Design and Project Liaison, Testing, Checkout and Acceptance ...	130	368
Construction Management (3.1% of TEC)	500	993
Project Management (3.1% of TEC)	500	716
Total Construction Costs (79.7% of TEC)	12,970	25,462
Contingencies		
Construction Phase (14.2% of TEC)	2,305	3,743
Total, Line Item Costs (TEC) ^b	16,266	30,200

5. Method of Performance

Design and inspection will be performed under a KCP negotiated architect-engineer contract.

Construction will be accomplished by fixed-price contract awarded on the basis of competitive proposals and administered by Honeywell.

^a Design funding was appropriated in 02-D-103, Project Engineering and Design.

^b Reflects the revised Performance Baseline established in January 2004.

6. Schedule of Project Funding

(dollars in thousands)

	Prior Years	FY 2003	FY 2004	FY 2005	Outyears	Total
Project Costs						
Facility Costs						
Design	163	567	261	0	0	991
Construction	0	899	10,020	3,750	606	15,275
Total, Line Item TEC	163	1,466	10,281	3,750	606	16,266
Other Project Costs						
Conceptual design cost	115	0	0	0	0	115
Other project-related costs	258	150	175	170	75	828
Total Other Project Costs	373	150	175	170	75	943
Total Project Cost (TPC)	536	1,616	10,456	3,920	681	17,209

7. Related Annual Funding Requirements

(FY 2004 dollars in thousands)

	Current Estimate	Previous Estimate
Related Annual Costs (Estimated Life of Project--30 Years)		
Annual Facility Operating Costs.....	3,500	3,500
Total Related Annual Funding (Operating from FY 2006 through FY 2036).....	3,500	3,500

03-D-123, SNM Component Requalification Facility, Pantex Plant, Amarillo, Texas

Significant Changes

- This project received approval of a partial Performance Baseline on December 17, 2003. The remaining scope is estimated to be baselined in June 2004.
- As a result of the Preliminary Design, completed in June 2003, and the partial Performance Baseline, the approximate TEC for this project increased by \$5,472,000 to \$20,813,000 and the approximate TPC increased by \$7,056,000 to \$23,640,000. The increases are the result of revisions that incorporate adjustments to project scope to better align with the needs of the W76 and other Life Extension Programs (LEPs) and reflect the equipment required for the approved pit requalification process. In addition, project contingencies were increased to address identified project risks (e.g., increased security conditions).
- The construction start date was delayed from first to second quarter of FY 2004.

1. Construction Schedule History

	Fiscal Quarter				Total Estimated Cost (\$000) ^a	Total Project Cost (\$000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 2003 Budget Request (Preliminary Estimate).....	2Q 2003	2Q 2004	2Q 2004	2Q 2005	11,300	13,300
FY 2004 Budget Request (Preliminary Estimate).....	2Q 2003	1Q 2004	1Q 2004	1Q 2006	15,341	16,584
FY 2005 Budget Request (Preliminary Estimate).....	2Q 2003	2Q 2004	2Q 2004	1Q 2006	20,813	23,640

^a The TEC includes the cost of preliminary and final design (\$1,088,950), which was appropriated in 02-D-103, Project Engineering and Design.

2. Financial Schedule

Fiscal Year	Appropriations	Obligations ^a	Costs ^a
Design^b			
2002	950	0	0
2003	139 ^c	886	629
2004	0	203	460
Construction			
2003	6,620 ^d	6,620	6
2004	7,628 ^e	8,502	11,398
2005	4,602	4,602	8,053
2006	0	0	267

3. Project Description, Justification, and Scope

This project consists of additions and modifications necessary to convert a portion of Building 12-86 into the Special Nuclear Material (SNM) Component Requalification Facility (CRF), and procurement and installation of the process equipment required for multiple weapon programs.

The Department of Energy (DOE) has given the mission assignment to the Pantex Plant to develop the capability to process pits through recertification and/or requalification (see Record of Decision: Programmatic Environmental Impact Statement for Stockpile Stewardship and Management). In total, approximately 350 pits per year will require either recertification or requalification. These 350 pits will be reused to rebuild War Reserve weapons that are required to maintain the enduring stockpile. Since the recertification and requalification processes are less extensive than reuse, recertification and requalification of 350 pits per year is equivalent to the workload criterion established in the Stockpile Stewardship and Management Program. The process to recertify/requalify existing SNM components is a much more desirable alternative than manufacturing new components. The recertification and requalification concept is more environmentally prudent. The number of pits proposed for recertification or requalification will complement the approximately 20 new pits per year, which will be manufactured by Los Alamos National Laboratory (reference the Programmatic Environmental Impact Statement Stewardship and Management).

^a Obligations and costs assume a reprogramming of \$874,000 from the High Explosives Readiness/Assembly Campaign for process equipment that is now included in the scope of this project.

^b Design funding was appropriated in 02-D-103, Project Engineering and Design (PED).

^c Original appropriation was \$143,000. This was reduced by \$1,000 by a rescission and by \$3,000 by the Weapons Activities general reduction enacted by P.L. 108-7, FY 2003 Omnibus Appropriations Act, Title VI.

^d Original appropriation was \$6,620,000. This was reduced by \$42,000 by a rescission and by \$150,000 by the Weapons Activities general reduction enacted by P.L. 108-7, FY 2003 Omnibus Appropriations Act, Title VI. The appropriation was increased by \$192,000 by a reprogramming.

^e The FY 2004 appropriated amount has not been adjusted for the FY 2004 Congressional Omnibus Appropriations Bill rescission of .59 percent.

Project Milestones

FY 2004: Establish Performance Baseline (Critical Decision 2) 1Q (partial)
Establish Performance Baseline (Critical Decision 2) 3Q (complete).

4. Details of Cost Estimate ^a

(dollars in thousands)		
	Current Estimate	Previous Estimate
Total, Design Costs (5.2% of TEC) ^b	1,089	1,093
Construction Phase		
Buildings	5,066	3,202
Other Structures	-	241
Standard Equipment	9,423	7,536
Removal Cost Less Salvage	-	86
Construction Management (6.3% of TEC)	1,316	594
Project Management (2.6% of TEC)	531	487
Total, Construction Costs (78.5% of TEC)	16,336	12,146
Contingencies		
Construction Phase (16.3% of TEC)	3,388	2,102
Total, Line Item Costs (TEC)	20,813	15,341

5. Method of Performance

The design services (Title I, II, III) will be accomplished by an outside A-E firm and will be administered by the Managing & Operating (M&O) Contractor (BWXT Pantex, LLC) who will perform equipment design and procurement. The construction services of this project will be performed by an outside construction contractor operating under a contract to be awarded on the basis of competitive bids. This contract will be administered by the M&O Contractor (BWXT Pantex, LLC). Construction Management Services will be performed by the DOE M&O Contractor (BWXT Pantex LLC). Best value practices have been used for design services and will be considered for construction services.

^a This is still a preliminary estimate based on a partial approved Critical Decision 2.

^b Design funding was appropriated in 02-D-103, Project Engineering and Design.

6. Schedule of Project Funding

(dollars in thousands)

	Prior Years	FY 2003	FY 2004	FY 2005	Outyears	Total
Project Costs						
Facility Costs						
Design	0	629	460	0	0	1,089
Construction	0	6	11,398	8,053	267	19,724
Total, Line Item TEC	0	635	11,858	8,053	267	20,813
Other Project Costs						
Conceptual design cost	185	0	0	0	0	185
NEPA documentation costs	4	0	0	0	0	4
Other ES&H costs	0	0	0	0	5	5
Other project-related costs	0	200	1,030	1,008	395	2,633
Total Other Project Costs	189	200	1,030	1,008	400	2,827
Total Project Cost (TPC)	189	835	12,888	9,061	667	23,640

7. Related Annual Funding Requirements

(FY2003 dollars in thousands)

	Current Estimate	Previous Estimate
Related annual costs (estimated life of project--30 years)		
Facility operating costs.....	360	360
Facility maintenance and repair costs.....	200	200
Programmatic operating expenses directly related to the Facility	1,500	1,500
Capital equipment not related to construction but related to the programmatic effort in the facility	350	350
Utility costs.....	150	150
Total related annual costs (operating from FY 2004 through FY 2033)	2,560	2,560

**02-D-103, National Nuclear Security Administration,
Project Engineering and Design (PED),
Various Locations**

Significant Changes

- The TEC of this project has been reduced by \$26,873,000 due to: the FY 2003 rescission and the Weapons Activities general reduction enacted by P.L. 108-7, FY 2003 Omnibus Appropriations Act, Title VI; and reprogramming actions and cancellations as explained below and in the subproject detail.
- The NNSA Integrated Construction Program Plan (ICPP) is continuously evaluated to ensure program requirements are validated, proposed projects are prioritized, and resources are appropriately allocated. Recent analyses resulted in the following program decisions:
 - The Beryllium Capability Project at Y-12 National Security Complex (formerly titled Beryllium Manufacturing Facility) has been downscoped to provide necessary equipment and facilities to maintain existing beryllium components versus manufacturing new components (05-D-402).
 - The Capability for Advanced Loading Missions (formerly titled Cleaning and Loading Modifications) at the Savannah River Site (SRS) has been modified to deliver a better balance between the capabilities and capacities required in the near-term for the Life Extension Programs (LEPs) and the future projected needs of the weapons program (04-D-127).
 - The Building 12-44 Production Cells Upgrade at Pantex has been updated to incorporate adjustments to project scope, efficiencies and contingencies necessary to address project risks (i.e., increased security conditions). The revised estimates for the project result in a reallocation of funding between design and construction of \$1,518,000 that will be proposed for reprogramming during FY 2004.
 - The LIGA Technologies Facility at SNL has been cancelled due to program and budget reviews that have invalidated the mission need for LIGA and LIGA-like microdevices to meet current and future programmatic requirements of refurbishing and modernizing the current nuclear weapon stockpile.
 - The Replacement of the Function Tester (RFT) project at SRS has been cancelled to support higher priority activities, and accept the additional risk and operational constraints associated with continued use of the existing tritium equipment/facilities that were to be augmented by the RFT project. No design or construction funding was obligated for this project.

The specific details of the changes are discussed in the respective construction line items, and the design funding changes are reflected in this data sheet.

1. Construction Schedule History

	Fiscal Quarter				Total Estimated Cost (\$000) ^a
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete	
FY 2002 Budget Request (<i>A-E and technical design only</i>)	1Q 2002	4Q 2004	N/A	N/A	19,880
FY 2003 Budget Request (<i>A-E and technical design only</i>)	1Q 2002	4Q 2005	N/A	N/A	83,275
FY 2004 Budget Request (<i>A-E and technical design only</i>)	1Q 2002	4Q 2006	N/A	N/A	54,628
FY 2005 Budget Request (<i>A-E and technical design only</i>)	3Q 2002	4Q 2005	N/A	N/A	27,755

^a The Total Estimated Cost reflected here is the design total for all the subprojects currently included in this data sheet.

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations ^a	Costs ^a
Design			
2002	7,337 ^b	4,887	2,104
2003	4,286 ^c	4,458	4,907
2004	10,950 ^d	8,260	5,394
2005	5,250	7,000	10,283
2006	3,150	3,150	5,067

^a The obligations and costs assume that funds will be reprogrammed as described in the subproject descriptions of this data sheet for: Building 12-44 Production Cells Upgrade (-\$1,518,000); the LIGA Technologies Facility (-\$1,000,000); and the Beryllium Capability project (-700,000).

^b Original FY 2002 appropriation of \$22,830,000 was reduced by \$183,000 as part of the FY 2003 Weapons Activities general reduction, and by \$3,010,000 as part of a reprogramming to 01-D-103 for the Purification Facility design. The appropriated amount was further reduced by \$2,095,000 as a result of a rescission pursuant to the FY 2002 Supplemental Appropriations Act, P.L. 107-206; by a reprogramming of \$4,000,000 from the U1A Support Facilities subproject to RTBF/Operations of Facilities in FY 2003. In addition, the FY 2004 appropriations directed the Department to meet its obligations to make payments to the Ohio Valley Electric Corporation (OVEC) from FY 2004 funding rather than in accord with the Department's proposed reprogramming presented in FY 2003. Funding in the amount of \$5,205,000 has been taken from this project to fund a portion of the Weapons Activities total financial responsibility for OVEC of \$23,000,000. Finally, it is reduced by \$1,000,000 from the Capability for Advanced Loading Missions project for a proposed reprogramming for the Departmental commitment for EEOICPA.

^c Original appropriation was \$17,306,000. This was reduced by \$110,000 for a rescission and by \$392,000 for the Weapons Activities general reduction enacted by P.L. 108-7, FY 2003 Omnibus Appropriations Act, Title VI. The appropriation was further decreased \$1,582,000 by the FY 2003 reduction/reallocation reprogramming. The resulting FY 2003 Comparable Appropriation is \$15,222,000. In addition, the FY 2004 appropriations directed the Department to meet its obligations to make payments to the Ohio Valley Electric Corporation (OVEC) from FY 2004 funding rather than in accord with the Department's proposed reprogramming presented in FY 2003. Funding in the amount of \$9,169,000 has been taken from this project to fund a portion of the Weapons Activities total financial responsibility for OVEC of \$23,000,000. Finally, the appropriation is further reduced by \$1,767,000 for a proposed reprogramming for the Departmental commitment for EEOICPA.

^d The FY 2004 appropriated amount has not been adjusted for the FY 2004 Congressional Omnibus Appropriations Bill rescission of .59 percent.

3. Project Description, Justification, and Scope

This project provides for Architect-Engineering (A-E) services for several National Nuclear Security Administration (NNSA) construction projects, allowing designated projects to proceed from conceptual design into preliminary design and final design. The design effort will be sufficient to assure project feasibility, define the scope, provide detailed estimates of construction costs based on the approved design and working drawings and specifications, and provide construction schedules, including procurements. The designs will be extensive enough to establish performance baselines and to support construction or long-lead procurements in the fiscal year in which line item construction funding is requested and appropriated.

Conceptual design studies are prepared for each project using Operations and Maintenance funds prior to receiving design funding under a PED line item. These studies define the scope of the project and produce a rough cost estimate and schedule.

FY 2002 PED design projects are described below. While not anticipated, some changes may occur due to developments occurring after submission of this data sheet. These changes will be reflected in subsequent years. Preliminary estimates for the cost of preliminary and final design and engineering efforts for each subproject are provided, as well as very preliminary estimates of the Total Estimated Cost (TEC), including physical construction, of each subproject. The final TEC and the Total Project Cost (TPC) for each project described below will be validated and the Performance Baseline will be established at Critical Decision 2 (CD-2), following completion of preliminary design.

FY 2002 Proposed Design Projects

02-01: Test Capabilities Revitalization, Phase I, SNL

Fiscal Quarter				Total Estimated Cost (Design Only (\$000))	Performance Baseline Total Estimated Cost (\$000)
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
3Q 2002	4Q 2003	2Q 2004	3Q 2005	4,481	40,931

Fiscal Year	Appropriations	Obligations	Costs
2002	3,090	3,090	1,203
2003	1,391 ^a	1,391	2,461
2004	0	0	817

This subproject provides the preliminary and final design for the Sandia Test Capabilities Revitalization (TCR) project. The TCR project will support urgently needed renovation and renewal work on the physical testing facilities and infrastructure at Sandia National Laboratories (SNL) required to support nuclear weapons refurbishment work. All of the physical test facilities are decades old and in need of very significant repair and maintenance. Some of them are in need of outright reconstitution in order to

^a Original appropriation was \$1,400,000. This was reduced by \$9,000 by a rescission and by \$32,000 by the Weapons Activities general reduction enacted by P.L. 108-7, FY 2003 Omnibus Appropriations Act, Title VI. The appropriation was increased \$32,000 by the FY 2003 reduction/reallocation reprogramming.

enable them to meet currently scheduled stockpile refurbishment requirements, or even the minimum anticipated demands over the next few decades. The goal of the proposed Test Capabilities Revitalization (TCR) project is to ensure that SNL is fully prepared to meet the physical testing demands of the stockpile refurbishment mission under any circumstances. An operational “fit-for-use” survey of existing physical testing capabilities, cross-referenced against currently scheduled or reliably anticipated stockpile refurbishment requirements, has revealed the need to renovate, rebuild, or otherwise revitalize up to three dozen different physical testing facilities, the bulk of which are located in Sandia Technical Area III (TA-III). The objective of the proposed TCR project is to redress the aging and deterioration of physical testing facilities and infrastructure in an orderly, integrated, efficient, organized, and cost-effective manner. The testing capabilities revitalization effort has been split into two phases. This design subproject supports only Phase I of the revitalization effort, which includes the Aerial Cable Facility and the Thermal Test Complex.

Line item 04-D-101 includes the construction funding for this project.

02-03: Exterior Communications Infrastructure Modernization (ECIM), SNL

Fiscal Quarter				Total Estimated Cost (Design Only (\$000))	Performance Baseline Total Estimated Cost (\$000)
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
3Q 2002	2Q 2004	3Q 2004	3Q 2006	2,494	22,494

Fiscal Year	Appropriations	Obligations	Costs
2002	1,497	1,497	738
2003	997 ^a	997	1,183
2004	0	0	573

This subproject provides the preliminary and final design of the Exterior Communications Infrastructure Modernization (ECIM) project. The objectives of this project are to modernize and integrate the exterior communications duct bank system that provides data, voice, dedicated security communications and facility control systems connectivity within Tech Area I of the SNL/New Mexico (NM) site. The original duct bank system, much of which is still used today, was installed in the 1950s. It is composed of collapsing clay and ceramic duct banks mixed with direct burial cables. Manholes often flood and remain filled with water for long periods of time. Some of the 50-year-old copper cables are constructed with hazardous lead sheathing and deteriorating paper composites that have become unreliable. Optical fiber cables installed in the 1970s have become inadequate in capacity, and are brittle and difficult to maintain and service.

The infrastructure system currently supports a workforce of approximately 9,000 people at the SNL/NM site. Many of the SNL current and emerging capabilities rely heavily on a communications infrastructure. Ideally, this infrastructure enables the high-speed, high-fidelity transmission of data within and between buildings, and across sites, in support of a multitude of mission activities. SNL/NM

^a Original appropriation was \$1,003,000. This was reduced by \$6,000 by a rescission and by \$23,000 by the Weapons Activities general reduction enacted by P.L. 108-7, FY 2003 Omnibus Appropriations Act, Title VI. The appropriation was increased \$23,000 by the FY 2003 reduction/reallocation reprogramming.

invested \$30 million to modernize the interior cabling systems within most large buildings on the site from 1992 through 1996. Eighty percent of interior telecommunication cabling has been completed, thereby permitting modern internal connectivity and enhanced maintenance cost effectiveness. However, these enabled facilities now communicate between each other with an aging, failing, and incapable inter-building cabling system. The ECIM project addresses these issues and integrates voice, data, security and access control telecommunications systems as well as providing the flexibility to adjust to future requirements. The new exterior infrastructure will provide a combination of new and renovated exterior duct banks, manholes, cabling and building termination equipment within Technical Area I of the SNL/NM site.

Line item 04-D-102 includes the construction funding for this project.

02-04: Replacement of Function Tester, SRS

Fiscal Quarter				Total Estimated Cost (Design Only (\$000))	Preliminary Full Total Estimated Cost Projection (\$000)
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
N/A	N/A	N/A	N/A	cancelled	cancelled

Fiscal Year	Appropriations	Obligations	Costs
2003	0 ^a	0	0

Recent analyses resulted in program decisions to: (1) cancel this project to support higher priority activities, and (2) accept the additional risk and operational constraints associated with continued use of the existing tritium equipment/facilities that were to be augmented by the Replacement of the Function Tester project. No design or construction funding was obligated for this project.

^a Original appropriation was \$800,000. This was reduced by \$5,000 by a rescission and by \$18,000 by the Weapons Activities general reduction enacted by P.L. 108-7, FY 2003 Omnibus Appropriations Act, Title VI. The remaining appropriation of \$777,000 was eliminated by the FY 2003 reduction/reallocation reprogramming.

02-05: LIGA Technologies Facility, SNL

Fiscal Quarter				Total Estimated Cost (Design Only (\$000))	Preliminary Full Total Estimated Cost Projection (\$000)
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
1Q 2004	N/A	N/A	N/A	cancelled	cancelled

Fiscal Year	Appropriations	Obligations ^a	Costs ^b
2004	1,500	500	500
2005	0	0	0

A recent program decision was made to cancel this project and to reexamine the mission need for LIGA and LIGA-like microdevices to meet current and future programmatic requirements of refurbishing and modernizing the current nuclear weapon stockpile. Funds were obligated at the beginning of FY 2004 to initiate design prior to this decision. NNSA anticipates recovering a portion of these funds (estimated in this data sheet to be \$1,000,000). Any uncosted balance that becomes available will be proposed for reprogramming to meet other priority requirements.

^a Obligations and costs assume the planned reprogramming of \$1,000,000 upon closeout of this cancelled project.

02-08: Beryllium Capability Project (formerly Beryllium Manufacturing Facility), Y-12

Fiscal Quarter				Total Estimated Cost (Design Only (\$000))	Preliminary Full Total Estimated Cost Projection (\$000)
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
3Q 2004	3Q 2005	1Q 2006	2Q 2008	7,000	35,000-45,000

Fiscal Year	Appropriations	Obligations ^a	Costs ^a
2002	0 ^b	0	0
2003	0 ^c	0	0
2004	7,700	7,000	1,800
2005	0	0	5,200

This project provides for the design of the equipment and facilities for the Beryllium Capability (BeC) Project at the Y-12 National Security Complex. This project will provide a new long-term capability to maintain existing Be components versus manufacturing new components.

The BeC Project will replace existing beryllium operational capabilities that are obsolete and inadequate to meet program requirements and environmental, safety, and health (ES&H) requirements. The scope includes capability for cleaning, handling, and inspecting BeO parts as well as sample preparation. An area for a future feature machine operation will also be provided. Much of the existing equipment has deteriorated and is at the end of its useful life. The systems are inefficient and unreliable due to their age and the state of disrepair, and maintenance is difficult and expensive due to the age, contamination levels of the equipment, and difficulty in acquiring spare parts. New equipment will provide an increased level of worker and personnel protection. This project will also have the additional benefit of vacating old facilities that are seriously degraded which will allow for further footprint reduction and reduction of maintenance backlog.

Construction funding for this facility is requested in FY 2005 in line item 05-D-402

^a Obligations and costs assume the planned reprogramming of \$700,000 to the construction line item to support establishment of the performance baseline.

^b Original FY 2002 appropriation of \$7,700,000 was reduced by \$800,000 as part of a reprogramming to 01-D-103 for the Purification Facility design. The appropriated amount was further reduced by \$1,695,000 as a result of a rescission pursuant to the FY 2002 Supplemental Appropriations Act, P.L. 107-206. Finally, the FY 2004 appropriations directed the Department to meet its obligations to make payments to the Ohio Valley Electric Corporation (OVEC) from FY 2004 funding rather than in accord with the Department's proposed reprogramming presented in FY 2003. Funding in the amount of \$5,205,000 has been taken from this project to fund a portion of the Weapons Activities total financial responsibility for OVEC of \$23,000,000.

^c Original appropriation was \$8,665,000. This was reduced by \$56,000 by a rescission and by \$196,000 by the Weapons Activities general reduction enacted by P.L. 108-7, FY 2003 Omnibus Appropriations Act, Title VI. The appropriation was further decreased \$876,000 by the FY 2003 reduction/reallocation reprogramming. In addition, the FY 2004 appropriations directed the Department to meet its obligations to make payments to the Ohio Valley Electric Corporation (OVEC) from FY 2004 funding rather than in accord with the Department's proposed reprogramming presented in FY 2003. Funding in the amount of \$6,669,000 has been taken from this project to fund a portion of the Weapons Activities total financial responsibility for OVEC of \$23,000,000. The remaining \$868,000 is proposed for reprogramming for the Departmental commitment for EEOICPA.

02-10 Building 12-44 Production Cells Upgrade, PX

Fiscal Quarter				Total Estimated Cost (Design Only (\$000))	Preliminary Full Total Estimated Cost Projection (\$000)
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
3Q 2003	4Q 2004	1Q 2005	1Q 2007	1,050 ^a	10,000-15,000

Fiscal Year	Appropriations	Obligations ^a	Costs ^a
2002	1,500	0	0
2003	1,068 ^b	493	67
2004	0	557	983

This subproject provides the preliminary and final design for the Pantex Building 12-44 Production Cells Upgrade (5 Cells). This project will lessen the cell shortfall by modifying five cells in building 12-044. The upgrade will bring these cells up to the same operational/capacity level as other cells at Pantex. The modifications to each of the five cells include:

- 1.1 Task exhaust installation
- 1.2 Contaminated Waste Isolation installation
- 1.3 Dehumidifier installation
- 1.4 HVAC replacement

The Building 12-44 Production Cells Upgrade will provide a crucial asset in meeting the DOE/NNSA strategic goal of maintaining confidence in the nuclear weapons stockpile. This project will provide modifications to an existing facility to increase capacity to meet the impact of changing weapon complexity, projected workload, and the stockpile refurbishment activities. The W-76 program is the first user to benefit from this additional capacity with other programs to follow.

Line item 04-D-126 includes the construction funding for this project.

^a Consistent with the preliminary baseline, the total estimated Project Engineering & Design (PED) funding requirement to complete design is \$1,050,000. It is planned that \$1,518,000 of the PED funding will be reprogrammed to the construction line item to support establishment of the performance baseline in FY 2004. The obligations and costs assume this reprogramming.

^b Original appropriation was \$1,100,000. This was reduced by \$7,000 by a rescission and by \$25,000 by the Weapons Activities general reduction enacted by P.L. 108-7, FY 2003 Omnibus Appropriations Act, Title VI.

02-11: SNM Component Requalification Facility, PX

Fiscal Quarter				Total Estimated Cost (Design Only (\$000))	Preliminary Full Total Estimated Cost Projection (\$000)
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
2Q 2003	2Q 2004	2Q 2004	1Q 2006	1,089	11,000-22,000

Fiscal Year	Appropriations	Obligations	Costs
2002	950	0	0
2003	139 ^a	886	629
2004	0	203	460

This subproject provides the preliminary and final design for the Pantex Special Nuclear Material (SNM) Component Requalification Facility (CRF). The SNMCRF will be constructed within a section of Building 12-86 which will be reconfigured to meet DOE Order 6430.1A requirements for a hazard Category II Non-Reactor Nuclear Facility, as determined by DOE-STD-1027-92 for hazard potentials and quantities of radioactive material in the facility. Radioactive materials will be handled and process-staged in the SNMCRF. The SNMCRF will be constructed as a vault with Class 5 vault doors at each entrance to establish a new security area that will control and detect unauthorized access into the facility.

The DOE has given the mission assignment to the Pantex Plant to develop the capability to process pits through recertification and/or requalification in the Record of Decision on the Programmatic Environmental Impact Statement for Stockpile Stewardship and Management. In total, approximately 350 pits per year will require either recertification or requalification. These 350 pits will be reused to rebuild War Reserve weapons that are required to maintain the enduring stockpile. The process to recertify/requalify existing SNM components is a much more desirable alternative than manufacturing new components. The recertification/requalification concept is more environmentally prudent as well.

Line item 03-D-123 includes the construction funding for this project.

^a Original appropriation was \$143,000. This was reduced by \$1,000 by a rescission and by \$3,000 by the Weapons Activities general reduction enacted by P.L. 108-7, FY 2003 Omnibus Appropriations Act, Title VI.

02-13: Gas Transfer Capacity Expansion, KC

Fiscal Quarter				Total Estimated Cost (Design Only (\$000))	Performance Baseline Total Estimated Cost (\$000)
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
3Q 2002	1Q 2004	3Q 2003	1Q 2006	991	16,266

Fiscal Year	Appropriations	Obligations	Costs
2002	300	300	163
2003	691 ^a	691	567
2004	0	0	261

This subproject provides the preliminary and final design for the proposed Gas Transfer Expansion project at the Kansas City Plant (KCP). This project will provide the KCP with the required equipment and facility resources to support new designs in reservoir production in addition to the existing production schedules for stockpile refurbishments. It will also provide the capital equipment and the facility modifications required to expand the current reservoir facility for new gas transfer system production.

As currently planned, the project will expand the current reservoir production department by approximately 13,000 square feet by extending the existing boundaries across an aisle and into the current Model Shop. This expansion area will house new weld and weld finishing equipment, and enlarge inspection facilities. The capital equipment plan includes both installation of new equipment and relocation of some existing equipment to improve production efficiency. In addition, the A-Room will be expanded within the existing Reservoir facility by approximately 800 square-feet.

Line item 03-D-121 includes the construction funding for this project.

^a Original appropriation was \$695,000. This was reduced by \$4,000 by a rescission and \$16,000 by the Weapons Activities general reduction enacted by P.L. 108-7, FY 2003 Omnibus Appropriations Act, Title VI. The appropriation was increased by \$16,000 by the FY 2003 reduction/reallocation reprogramming.

02-14: Capability for Advanced Loading Missions (formerly Cleaning and Loading Modifications) (CALM), SRS

Fiscal Quarter				Total Estimated Cost (Design Only (\$000))	Preliminary Full Total Estimated Cost Projection (\$000)
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
1Q 2005	4Q 2006	4Q 2006	1Q 2009	10,150	35,000-40,000

Fiscal Year	Appropriations	Obligations	Costs
2004 ^a	1,750	0	0
2005	5,250	7,000	5,083
2006	3,150	3,150	5,067

This project has been delayed one year and will now begin design in the 1Q of FY 2005. Funding appropriated in FY 2002 and FY 2003 has been reprogrammed to support other Departmental requirements.

The CALM project supports the mission of the National Nuclear Security Administration (NNSA) to maintain the nuclear weapons stockpile, without underground nuclear testing, to meet national security requirements. This mission is encompassed in the DOE Stockpile Stewardship Program, which ensures the operational readiness of the nuclear weapons through the Directed Stockpile Work (DSW) activities. The DSW program conducts surveillance, maintenance, design, and manufacturing activities required to maintain the nuclear weapons stockpile and to certify the stockpile remains safe, secure, and reliable. Investment in advanced capabilities for the future is essential to ensure the long-term capabilities to accurately assess weapon status and reliability.

The objective of the CALM Project is to provide Savannah River Site (SRS) tritium facilities with the capability and capacity to process the converted W80, W76, and W87 weapons systems tritium reservoirs. This project will modify an existing reservoir loading line to enable cleaning and loading of these new reservoirs as well as add unloading capabilities. This objective is in support of the nuclear weapons Life Extension Programs (LEPs) and will be accomplished while maintaining the limited life component exchange requirements for tritium reservoir loading and unloading. These capability and capacity requirements are given in the NNSA Production and Planning Directive (P&PD) 2001-0, February 2001; P&PD 2002-0; and P&PD 2003-0.

Line item 04-D-127 includes the construction funding for this project.

^a Funding appropriated in FY 2002 (\$1,000,000) and FY 2003 (\$3,399,000 – original appropriation of \$3,500,000 which was reduced by \$22,000 by rescission and by \$79,000 by the Weapons Activities general reduction enacted by P.L. 108-7, FY 2003 Omnibus Appropriations Act, Title VI) was eliminated. the FY 2004 appropriations directed the Department to meet its obligations to make payments to the Ohio Valley Electric Corporation (OVEC) from FY 2004 funding rather than in accord with the Department's proposed reprogramming presented in FY 2003. Funding in the amount of \$3,500,000 has been taken from this project to fund a portion of the Weapons Activities total financial responsibility for OVEC of \$23,000,000. In addition, \$899,000 is proposed for reprogramming for the Departmental commitment for EEOICPA.

4. Details of Cost Estimate ^a

(dollars in thousands)

	Current Estimate	Previous Estimate
Design Phase ^b		
Preliminary and Final Design costs (Design Drawings and Specifications).....	20,820	40,973
Design Management costs (15% of TEC).....	4,160	8,195
Project Management costs (10% of TEC).....	2,776	5,460
Total, Design Costs (100% of TEC).....	27,775	54,628
Total, Line Item Costs (TEC, Design Only).....	27,775	54,628

5. Method of Performance

Design services will be obtained through competitive and/or negotiated contracts. Managing & Operating contractor staff may be utilized in areas involving security, production, and proliferation concerns.

^a This cost estimate is based upon direct field inspection and historical cost estimate data, coupled with parametric cost data and completed conceptual studies and designs, when available. The cost estimate includes design phase activities only.

^b The percentages for Design Management, Project Management, and Design Phase Contingency are estimates based on historical records and are preliminary estimates.

6. Schedule of Project Funding

(dollars in thousands)

	Prior Years	FY 2003	FY 2004	FY 2005	Outyears	Total
Project Cost						
Facility Cost						
Project Engineering and Design	2,104	4,907	5,394	10,283	5,067	27,775
Total, Line Item TEC	2,104	4,907	5,394	10,283	5,067	27,775
Total, Facility Costs (Federal and Non-						
Federal)	2,104	4,907	5,394	10,283	5,067	27,775
Other Project Costs ^a						
Conceptual design costs	700	0	0	0	0	700
Other project-related costs	190	355	250	0	0	795
Total, Other Project Costs	890	355	250	0	0	1,495
Total Project Costs	2,994	5,262	5,664	10,283	5,067	29,250

^a Once line item construction funding is requested, the Other Project Costs associated with the project are included in the construction data sheet and are no longer reflected here.

02-D-105, Engineering Technology Complex Upgrade, Lawrence Livermore National Laboratory, Livermore, California

Significant Changes

- This data sheet reflects reduced FY 2003 funding for this project as a result of a reprogramming. Changes to the financial schedule and the project completion date, as supported in the Performance Baseline approved in December 2003, are also incorporated.

1. Construction Schedule History

	Fiscal Quarter				Total Estimated Cost (\$000) ^a	Total Project Cost (\$000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 2003 Budget Request (<i>Preliminary Estimate</i>).....	2Q 2002	4Q 2003	4Q 2002	4Q 2006	26,700	27,700
FY 2004 Budget Request (<i>Preliminary Estimate</i>).....	2Q 2002	3Q 2003	3Q 2002	1Q 2006	26,700	27,700
FY 2005 Budget Request (<i>Performance Baseline</i>).....	2Q 2002	3Q 2003	4Q 2002	4Q 2006	26,700	27,700

^a The TEC includes the cost of preliminary and final design (\$2,250,000), which was appropriated in 01-D-103, Project Engineering and Design.

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
Design ^a			
2002	2,250	2,250	984
2003	0	0	1,214
2004	0	0	52
Construction			
2002	4,674 ^b	4,674	268
2003	4,600 ^c	4,600	5,577
2004	9,776 ^d	9,776	7,318
2005	5,400	5,400	7,735
2006	0	0	3,110
2007	0	0	442

3. Project Description, Justification, and Scope

The Engineering Technology Complex Upgrade (ETCU) project addresses technological obsolescence and corrects code compliance shortfalls associated with structural seismic design of Building 321C. It also upgrades Building 321 A & C to improve current environmental, safety, and health compliance while improving cost effective operations by consolidating and reorganizing laboratory functions in Building 321C.

The Building 321 Complex was constructed in increments, beginning in 1956, to provide engineering fabrication services for research programs at Lawrence Livermore National Laboratory (LLNL). Today, the 47-year-old Complex and associated machine tool equipment are obsolete and do not meet current or anticipated future Weapons Program requirements. Building 321 Complex systems vary in age and condition and generally fail to comply with current seismic design and construction codes, life safety code requirements or environmental health, safety and energy compliance standards. Failure to upgrade the Building 321 Complex will: 1) further degrade existing deteriorated infrastructure, which will increase maintenance costs, continue higher energy use costs, lower operating efficiency, and reduce the quality of manufactured research components; and 2) critical

^a Design funding was appropriated in 01-D-103, Project Engineering and Design (PED).

^b Appropriation of \$4,750,000 was reduced by \$76,000 for the FY 2002 Weapons Activities general reduction.

^c Original appropriation was \$10,000,000. This was reduced by \$63,000 for a rescission and \$227,000 for the Weapons Activities general reduction enacted by P.L. 108-7, FY 2003 Omnibus Appropriations Act, Title VI. The appropriation was further reduced by \$5,110,000 by a reprogramming. The funding is restored in FY 2005.

^d The FY 2004 appropriated amount has not been adjusted for the FY 2004 Congressional Omnibus Appropriations Bill rescission of .59 percent.

Stockpile Stewardship Program operations will continue to be adversely impacted by the lack of quantity and quality of non-state-of-the-art research components.

The ETCU project upgrades aging Building 321 Complex infrastructure, which supports critical LLNL Defense Programs research activities, including the National Ignition Facility (NIF), Lasers, Computations, Chemistry, and Materials Science and Engineering. LLNL Defense Programs research activities directly support the National Nuclear Security Administration (NNSA) Stockpile Stewardship Program goals and associated NNSA Campaigns. The ETCU Project will benefit the following NNSA Campaigns, which are designed to develop and maintain critical capabilities needed to achieve confidence in the certification of the nuclear weapons stockpile without nuclear testing: the Science Campaign (Primary Certification, Secondary Certification, and Nuclear Systems Margins activities) will benefit from the new enhanced Building 321 fabrication capabilities. The upgraded Complex will directly support Dynamic Materials activities by creating a facility designed to enhance the fabrication of unusual test components for probing material properties. The ETCU project will help achieve Advanced Radiography activities objectives by creating an environment for improving complex, hydro test component fabrication tolerances. The ETCU project is an integral part of the FY 2003 Defense Programs Strategic Plan for LLNL Line Item construction, as documented in the LLNL Ten Year Comprehensive Site Plan.

The ETCU project blends the rehabilitation of Building 321A and C and consolidation of research activities with upgrading machine tool equipment to achieve building and life safety code compliance, enhanced Weapons Program fabrication capabilities and improved operational efficiency. To plan and execute the project performance scope, cost and schedule baselines within the constraints imposed by multi-year funding appropriations, the ETCU project is divided into four separate subtasks. This approach matches the sequencing of construction activities and purchase of long lead equipment to the availability of project funding.

- \$ The B321 Roof Equipment Replacement subtask will replace aging roof mounted HVAC equipment serving Buildings 321A and C and retrofit selected exhaust systems with new HEPA filters to improve facility temperature control and enhance clean laboratory environments. The replacement of roof equipment is being coordinated with the Protection of Real Property: Roofs, Phase II project (99-D-104), which will replace the Building 321Complex roof.
- \$ The B321 Machining Equipment subtask provides for the purchase and installation of new and replacement machine tools, machine tool upgrades and inspection equipment to enhance the B321 precision manufacturing capability.
- \$ The B321C Seismic Upgrade sub task provides for retrofitting the Building 321C structural systems to meet current seismic design standards. Building 321C covers approximately 85,000 square feet in area.
- \$ The Building 321C General Modifications subtask reconfigures approximately 20,000 square feet of existing Building 321C floor space to improve space utilization of the Numerical Control Machining and Ultra-precision Machining areas, consolidate and improve the operational efficiency of the Building 321C Beryllium Machining and Inspection operations, upgrade or replace selected building systems, and modify restrooms to reflect changes in workplace diversity and current accessibility standards.

Project Milestones:

FY 2003:	Start Construction B321 Roof Equipment Replacement	2Q
FY 2004:	Start Activation of B321 Roof Equipment Replacement	3Q
	Start Construction B321C Seismic Upgrade	1Q
	Start Construction B321C General Modifications	1Q
	Complete Construction B321 Roof Equipment Replacement	3Q
FY 2005:	None	
FY 2006:	Complete construction B321C Seismic Upgrade	4Q
	Complete Construction B321 General Modifications	3Q
FY2007:	Project Completion	2Q
	Project Closure Report	4Q

4. Details of Cost Estimate

(dollars in thousands)		
	Current Estimate	Previous Estimate
Total, Design Phase (8.4% of TEC) ^a	2,250	2,250
Construction Phase		
Buildings	16,323	13,610
Standard Equipment.....	3,601	4431
Inspection, Design and Project Liaison, Testing, Checkout and Acceptance.....	738	1,070
Construction Management (1.3% of TEC).....	370	1,010
Project Management (3.3% of TEC).....	878	760
Total Construction Costs (78.3% of TEC)	21,910	20,920
Contingencies		
Construction Phase (13.2% of TEC)	2,540	3,530
Total, Line Item Costs (TEC)	26,700	26,700

^a Design funding was appropriated in 01-D-103, Project Engineering and Design (PED).

5. Method of Performance

Design will be performed by a combination of AE firms and LLNL forces. Major construction will be accomplished by negotiated fixed-price delivery order contracts awarded to the LLNL Labor Only Contractor. Selected portions of the B321C Seismic Upgrade subtask will be awarded to sub- subcontractors to the Labor Only subcontractor. Selected minor construction and activation will be done by LLNL forces.

The ETCU Project Execution Plan (PEP) describes the project objectives, scope of work, cost, and schedule, as well as the means, methods, and controls that will be used to achieve the project objectives. The scope is based upon the most current Department of Energy (DOE) Construction Project Data Sheet (CPDS) Budget Request. The PEP is a living document that will be reviewed and revised periodically until the project is complete.

6. Schedule of Project Funding

(dollars in thousands)						
	Prior Years	FY 2003	FY 2004	FY 2005	Outyears	Total
Project Cost						
Facility Costs						
Design ^a	984	1,214	52	0	0	2,250
Construction	268	5,577	7,318	7,735	3,552	24,450
Total, Line item TEC.....	1,252	6,791	7,370	7,735	3,552	26,700
Total Facility Costs (Federal and Non-Federal).....	1,252	6,791	7,370	7,735	3,552	26,700
Other Project Costs						
Conceptual design costs	370	0	0	0	0	370
NEPA documentation costs.....	20	0	0	0	0	20
Other project-related costs ^b	130	0	0	0	480	610
Total, Other Project Costs	520	0	0	0	480	1,000
Total Project Cost (TPC).....	1,772	6,791	7,370	7,735	4,032	27,700

^a Design funding was appropriated in 01-D-103, Project Engineering and Design (PED).

^b Including tasks such as the Project Execution Plan, Pre-Title I Project Management, Design Criteria, Architect/Engineer Selection, Value Engineering Study, Independent Cost Estimate, Site Surveys, As-Built Surveys, Utility Location Services, Administrative Support, Operations and Maintenance Support, Risk Management Plan, Project Execution Plan, Acquisition Strategy, Critical Decisions Presentations, Project Controls Support, and Internal/External Reviews.

7. Related Annual Funding Requirements

(FY 2007 dollars in thousands)

	Current Estimate	Previous Estimate
Annual facility operating costs	1,500	1,500
Total related annual funding (operating from FY 2007 through FY 2025).....	1,500	1,500

01-D-103, National Nuclear Security Administration Project Engineering and Design (PED), Various Locations

Significant Changes

- Due to the dynamic nature of the missions performed at Technical Area (TA)-18, conceptual design activities are now expected to be completed in late FY 2004 as preliminary estimates warranted a re-examination of program and project requirements to contain total project costs. Preliminary reviews of the conceptual design have not completely contained project costs and schedule within current funding profiles outlined in this data sheet. As such, the National Nuclear Security Administration (NNSA) senior management will conduct a detailed review of the conceptual design during the second quarter of FY 2004. The review will focus on three key areas: validating the proposed baseline range, assessing the appropriateness of placing some activities within the project versus program, and selecting a project management structure.
- Given the current uncertainty in the project, Project Engineering and Design (PED) funds are requested at a reduced level in FY 2005. A revised data sheet will be submitted pending the outcome of the NNSA senior management review.

1. Construction Schedule History

	Fiscal Quarter				Total Estimated Cost (\$000) ^a
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete	
FY 2001 Budget Request (<i>A-E and technical design only</i>).....	1Q 2001	2Q 2002	N/A	N/A	14,500
FY 2002 Budget Request (<i>A-E and technical design only</i>).....	1Q 2001	4Q 2003	N/A	N/A	110,665
FY 2001 Congressional Budget Supplemental (<i>A-E and technical design only</i>).....	1Q 2001	4Q 2003	N/A	N/A	82,676
FY 2003 Budget Request (<i>A-E and technical design only</i>).....	2Q 2001	2Q 2005	N/A	N/A	56,086
FY 2004 Budget Request (<i>A-E and technical design only</i>).....	2Q 2001	4Q 2005	N/A	N/A	55,122
FY 2005 Budget Request (<i>A-E and technical design only</i>).....	2Q 2001	3Q 2006	N/A	N/A	TBD

^a The TEC estimate is for design only for the subprojects currently included in this data sheet.

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations ^a	Costs
Design			
2001	22,133 ^{bc}	21,121	8,583
2002	19,389 ^d	12,849	14,608
2003	0	0	9,528
2004	1,600 ^e	TBD	TBD
2005	6,000	TBD	TBD
2006	0	TBD	TBD

3. Project Description, Justification and Scope

This is the fifth year of a pilot project to provide for Architect-Engineering (A-E) services for several National Nuclear Security Administration (NNSA) construction projects. This allows designated projects to proceed from conceptual design into preliminary design and final design. The design effort will be sufficient to assure project feasibility, define the scope, provide detailed estimates of construction costs based on the approved design and working drawings and specifications, and provide construction schedules, including procurements. The designs will be extensive enough to establish performance baselines and to support construction or long-lead procurements in the fiscal year in which line item construction funding is requested and appropriated.

Conceptual design studies are prepared for each project using Operations and Maintenance funds prior to receiving design funding under a PED line item. These conceptual design studies define the scope of the project and produce a rough cost estimate and schedule. The use of a PED line item will enable a project to proceed immediately upon completion of the conceptual design into preliminary and final designs. It will permit acceleration of new facilities, provide savings in construction costs based on current rates of inflation, and permit more mature cost, schedule, and technical baselines for projects when the budget is submitted to Congress.

^a Obligations are reduced to reflect the planned reprogramming of uncosted balances available after completion of the designs for Atlas Relocation (\$14,000), MESA (\$31,000) and SURF (\$83,000).

^b The FY 2001 Energy and Water Development appropriation for design and other non-design activities increased the requested appropriation from \$14,500,000 to \$35,500,000. This was reduced by \$78,000 for a rescission enacted by Section 1403 of the FY 2001 Consolidated Appropriations Act.

^c The FY 2001 Congressional Budget Supplemental transferred \$13,289,000 of the FY 2001 appropriation to 01-D-108 (\$9,500,000) and 01-D-107 (\$3,789,000).

^d Includes a reprogramming of \$3,010,000 for the Purification Facility subproject.

^e The FY 2004 appropriated amount has not been adjusted for the FY 2004 Congressional Omnibus Appropriations Bill rescission of .59 percent.

The NNSA has made decisions as to which sub-projects should proceed to Title I design efforts to best support the Stockpile Stewardship mission; the amount of funding to be applied to each of these subprojects is reflected in this data sheet. The FY 2005 request provides funding to continue one subproject not fully funded in previous fiscal years. New NNSA design requests are included in a new FY 2005 PED line item, 05-D-140.

Following completion of preliminary design activities, the NNSA will determine preliminary design project baselines, providing detailed funding and schedule estimates for final design and physical construction. The NNSA will request external independent experts to assess the project scope, schedule and budget. Based upon the results of this assessment, and a review of the continuing programmatic requirement for the project, the NNSA will either cancel further action on the subproject, or set the Performance Baseline for the project while proceeding with final design activities. The preliminary design baseline will be the basis for the request to Congress for authorization and appropriations for physical construction, though some projects may require construction funding for long lead procurements prior to establishment of the performance baseline. Each project that proceeds to physical construction will be separated into an individual construction line item, the total estimated cost (TEC) of which will include the cost of the engineering and design activities funded through the PED line item.

All but one project which began design in this line item have established Performance Baselines and have proceeded to construction, including the Microsystems and Engineering Sciences Applications (MESA) Complex, the Electrical Power Systems Safety, Communications and Bus Upgrades project, the Engineering Technology Complex Upgrade project, the Atlas Relocation to the Nevada Test Site project, and the Purification Facility. One project, the Sandia Underground Reactor Facility, was cancelled following design because the security cost savings envisioned in justification of the project were no longer valid due to a revised Design-Basis Threat and an increase in the estimated cost to construct the facility. Funding is requested for design in FY 2005 only for the Technical Area-18 Mission Relocation subproject.

FY 2001 Design Projects

01-01: Microsystems and Engineering Sciences Applications (MESA), SNL

Fiscal Quarter				Total Cost (Design Only (\$000))	Performance Baseline Total Estimated Cost (\$000)
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
2Q 2001	1Q 2003	3Q 2003	3Q 2010	14,925 ^a	462,469

Fiscal Year	Appropriations	Obligations	Costs
2001	10,456	10,456	6,673
2002	4,500 ^a	4,469 ^a	7,426
2003	0	0	826

The Microsystems and Engineering Sciences Applications (MESA) Complex at Sandia National Laboratories in Albuquerque, will be a state-of-the-art national complex that will provide for the design, integration, prototyping and fabrication, and qualification of microsystems into weapon components, subsystems, and systems within the stockpile. Design for this project is complete; line item 01-D-108 includes the construction funding.

01-03: Electrical Power Systems Safety, Communications and Bus Upgrades, NTS

Fiscal Quarter				Total Estimated Cost (Design Only (\$000))	Performance Baseline Total Estimated Cost (\$000)
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
2Q 2002	4Q 2003	3Q 2004	4Q 2005	2,693	16,313

Fiscal Year	Appropriations	Obligations	Costs
2001	0	0	0
2002	2,693	2,693	727
2003	0	0	1,714
2004	0	0	252

The Electrical Power Systems Safety, Communications, and Bus Upgrades project will provide for a new Mercury Distribution Substation and the upgrade of Jackass Flats Substation and Mercury Switching Center. This project received Critical Decision 2 on November 1, 2002, establishing the Performance Baseline, reflected above. Line item 02-D-107 includes the construction funding for this project.

^a Congress provided \$20,000,000 in the FY 2001 appropriation for design and supporting infrastructure upgrades for MESA. The total TEC for design is \$15,000,000. This was reduced by \$44,000 for a rescission enacted by Section 1403 of the FY 2001 Consolidated Appropriations Act. Funding for the infrastructure upgrades originally appropriated here in FY 2001 was transferred to line item 01-D-108 as part of the FY 2001 Congressional Budget Supplemental. As of the FY 2005 budget, the design TEC and the obligations and costs now reflect the actual cost of design; the remaining uncoded balance of \$31,000 is planned for reprogramming.

Weapons Activities/RTBF/Construction

01-D-103—National Nuclear Security Administration, Project
Engineering and Design, VL

FY 2005 Congressional Budget

01-04: Engineering Technology Complex Upgrade, LLNL

Fiscal Quarter				Total Estimated Cost (Design Only (\$000))	Performance Baseline Total Estimated Cost (\$000)
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
2Q 2002	3Q 2003	4Q 2002	4Q 2006	2,250	26,700

Fiscal Year	Appropriations	Obligations	Costs
2001	0	0	0
2002	2,250	2,250	984
2003	0	0	1,214
2004	0	0	52

The Engineering Technology Complex Upgrade (ETCU) project will up grade the Building 321 Complex at Lawrence Livermore National Laboratory (LLNL) which supports the weapons program by manufacturing parts for research programs important to the Stockpile Stewardship Program including the National Ignition Facility (NIF), Lasers, Computations, and the Weapons Program. Line item 02-D-105 includes the construction funding for this project.

01-06: Atlas Relocation to the Nevada Test Site, NTS

Fiscal Quarter				Total Cost (Design Only (\$000))	Performance Baseline Total Estimated Cost (\$000)
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
2Q 2001	1Q 2002	1Q 2002	TBD	1,186 ^a	16,272

Fiscal Year	Appropriations	Obligations	Costs
2001	1,200 ^a	1,186 ^a	1,146
2002	0	0	40

This subproject supported the design efforts of a joint team of Los Alamos National Laboratory (LANL), Bechtel Nevada (BN), personnel from other laboratories, and NNSA Nevada Operations Office staff in the development and implementation of the plan to relocate Atlas to the Nevada Test Site. The design has been completed and the project construction was funded under line item 01-D-107.

^a Original appropriation was \$5,000,000. This was reduced by \$11,000 for a rescission enacted by Section 1403 of the FY 2001 Consolidated Appropriations Act, and a total of \$3,789,000 in construction funding was transferred to line item 01-D-107 as part of the FY 2001 Congressional Budget Supplemental. As of the FY 2005 budget, the design TEC and the obligations and costs now reflect the actual cost of design; the remaining uncostered balance of \$14,000 is planned for reprogramming.

01-07: TA-18 Mission Relocation, LANL

Fiscal Quarter				Total Estimated Cost (Design Only (\$000))	Preliminary Full Total Estimated Cost Projection Cost (\$000)
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
TBD	TBD	TBD	TBD	TBD	TBD

Fiscal Year	Appropriations	Obligations	Costs
2001	998 ^a	0	0
2002	6,426	0	0
2003	0	0	0
2004	1,600	TBD	TBD
2005	6,000	TBD	TBD
2006	0	TBD	TBD

This subproject provides for preliminary and final design associated with the LANL Technical Area (TA)-18 Mission Relocation Project (MRP), the goal of which is to provide a secure, modern location for conducting general-purpose nuclear materials handling activities currently conducted at LANL TA-18. TA-18 is the sole remaining facility in the United States capable of performing general-purpose nuclear materials handling experiments and conducting training essential to support national security missions including: research and development of technologies in support of Homeland Defense and counter-terrorism initiatives; the continued safe and efficient handling and processing of fissile materials; the development of technologies vital to implementing arms control and nonproliferation agreements; the development of emergency response technologies to respond to terrorist attacks, etc.; training for criticality safety professionals, fissile materials handlers, emergency responders, International Atomic Energy Agency professionals, and other Federal and State organizations charged with Homeland Defense responsibilities. The need for this project is based on the projected large capital investment for security and infrastructure upgrades required over the next 10 years to remain at TA-18. The NNSA recently completed environmental reviews and technical and cost studies to evaluate siting options for the TA-18 missions, and designated that the preferred alternative is to relocate a portion of the TA-18 missions (those requiring Security Category I/II special nuclear material) to the Device Assembly Facility (DAF) at the NTS with the remaining missions (those requiring Security Category III/IV special nuclear material) residing at LANL. The previous preferred alternative was construction of a new facility at LANL. Given the recent change in direction, additional conceptual design activities are required to develop detailed project scope, schedules, and budget; however, it is anticipated that this project will include capabilities to house and operate critical assemblies, store associated special nuclear material, and provide infrastructure to support criticality training and detection development activities.

Due to the dynamic nature of the missions performed at TA-18, conceptual design activities are now expected to be completed in late FY 2004 as preliminary estimates warranted a re-examination of program and project requirements to contain costs. As such, the National Nuclear Security

^a Original appropriation was \$1,000,000. This was reduced by \$2,000 for a rescission enacted by Section 1403 of the FY 2001 Consolidated Appropriations Act.

Administration (NNSA) senior management will conduct a detailed review of the conceptual design during the second quarter of FY 2004.

01-08: Sandia Underground Reactor Facility (SURF), SNL

Fiscal Quarter				Total Cost (Design Only (\$000))	Preliminary Full Total Estimated Cost Projection Cost (\$000)
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
3Q 2001	4Q 2002	Cancelled	Cancelled	3,123 ^a	Cancelled

Fiscal Year	Appropriations	Obligations	Costs
2001	2,696	2,696	764
2002	510 ^a	427 ^a	2,351
2003	0	0	8

This project was cancelled by the NNSA in October 2003 because the security cost savings envisioned in justification of the project were no longer valid due to the recently completed draft Design-Basis Threat (DBT). Coupled with an increase in the estimated cost to construct the facility since establishment of the performance baseline, the payback period for capturing the initial investment increased to the point that the programmatic benefit anticipated for the project was significantly reduced.

^a As of the FY 2005 budget, the design TEC and the obligations and costs now reflect the actual cost of design; the remaining uncoded balance of \$83,000 is planned for reprogramming.

01-09: Purification Facility, Y-12

Fiscal Quarter				Total Estimated Cost (Design Only (\$000))	Performance Baseline Total Estimated Cost (\$000)
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
2Q 2002	3Q 2003	3Q 2003	4Q 2004	9,793 ^a	\$37,977

Fiscal Year	Appropriations	Obligations	Costs
2001	6,783	6,783	0
2002	3,010 ^b	3,010	3,080
2003	0	0	5,766
2004	0	0	947

The Purification Facility at the Y-12 Plant will meet both near-term LEP requirements and support projected longer-term weapons program needs. Operations performed within the Purification Facility will include 1) dissolution, filtration, and recrystallization; and, 2) powder processing in a nitrogen atmosphere. Line item 03-D-122 includes the construction funding for this project.

4. Details of Cost Estimate*(dollars in thousands)*

	Current Estimate	Previous Estimate
Design Phase		
Preliminary and Final Design costs (Design Drawings and Specifications)	TBD	42,722
Design Management costs	TBD	4,800
Project Management costs	TBD	7,600
Design Phase Contingency (current estimates include contingency based on risk analysis)	TBD	0
Total, Design Costs	TBD	55,122
Total, Line Item Costs (TEC)	TBD	55,122

^a Original amount allocated to this subproject was reduced by \$17,000 for a rescission enacted by Section 1403 of the FY 2001 Consolidated Appropriations Act.

^b \$3,010,000 was reprogrammed to this subproject in FY 2002 to support the increased design TEC.

5. Method of Performance

Design services will be obtained through competitive and/or negotiated contracts. M&O contractor staff may be utilized in areas involving security, production, and proliferation concerns.

6. Schedule of Project Funding

	Prior Years	FY 2003	FY 2004	FY 2005	Outyears	Total
Project Cost						
Facility Cost						
Design	23,191	9,528	TBD	TBD	TBD	TBD
Total, Line Item TEC	23,191	9,528	TBD	TBD	TBD	TBD
Total, Facility Costs (Federal and Non-Federal)	23,191	9,528	TBD	TBD	TBD	TBD
Other Project Costs ^a						
Conceptual design costs	0	0	0	0	TBD	TBD
Other project-related costs	0	0	0	0	TBD	TBD
Total, Other Project Costs	0	0	0	0	TBD	TBD
Total Project Costs	23,191	9,528	TBD	TBD	TBD	TBD

^a Once line item construction funding is requested, the Other Project Costs associated with the project are included in the construction data sheet and are no longer reflected here. All design subprojects in this PED line item have either been deferred/cancelled or have a separate line item construction project data sheet.

01-D-124, Highly Enriched Uranium Materials Facility Y-12 National Security Complex, Oak Ridge, Tennessee

Significant Changes

- With the submittal of this data sheet, this project completes its transition to a revised project management model established by the Department of Energy (DOE) as reflected in DOE Order 413. The project recently completed Preliminary Design and established the Performance Baseline in the first quarter of FY 2004 (Critical Decision 2).
- The Performance Baseline presented in this data sheet includes: additional scope (Reflecto-Active Seals for material accountability); improved definition and cost information for storage elements (rackable can storage boxes, drum trays, and storage racks); facility modifications to respond to revised security threat guidance and improved cost information for security doors; more accurate quantity takeoffs (backfill, piping, ducting); better definition of heating, ventilation, and air conditioning (HVAC) and general support requirements; and, 100 percent estimate for site readiness and early site preparation work. It also includes the cost for resolution of critical foundation and safety authorization issues raised during Preliminary Design.

Reflecting all these changes and using current overhead and escalation rates, the Total Estimated Cost increased from \$184,000,000 to \$211,898,000, and the Total Project Cost (TPC) increased from \$222,500,000 to \$251,198,000 million. This TPC is within the projected range presented in the “Significant Changes” portion of the FY 2004 Congressional Budget Request for this project.

Start of operations is now scheduled for the third quarter of FY 2008.

1. Construction Schedule History

	Fiscal Quarter				Total Estimated Cost (\$000)	Total Project Cost (\$000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 2001 Budget Request (Preliminary Estimate).....	1Q 2001	1Q 2002	2Q 2001	2Q 2005	120,000	144,000
FY 2002 Budget Request.....	3Q 2001	4Q 2002	4Q 2001	2Q 2005	119,949 ^a	143,949
FY 2003 Budget Request.....	3Q 2001	4Q 2003	2Q 2002	4Q 2006	119,949	143,949
FY 2004 Budget Request.....	3Q 2002	4Q 2003	3Q 2002	3Q 2006	184,000	222,500
FY 2005 Budget Request (Performance Baseline) ^b	4Q 2002	1Q 2004	2Q 2003	1Q 2007	211,898	251,198

2. Financial Schedule

(dollars in thousands)			
Fiscal Year	Appropriations	Obligations	Costs
2001	17,710 ^c	17,710	0
2002	0	0	1,242
2003	24,140 ^d	24,140	19,980
2004	45,000 ^e	45,000	29,676
2005	64,000	64,000	53,981
2006	51,000	51,000	86,609
2007	10,048	10,048	15,729
2008	0	0	4,681

^a Original TEC was \$120,000,000. This was reduced by \$51,000 for Safeguards and Security (S&S) Amendment in 2001.

^b This information reflects the Performance Baseline in accordance with DOE Order 413.3 requirements.

^c The original 2001 appropriation request was \$17,800,000. This was reduced by \$51,000 by the Safeguards and Security (S&S) Amendment, and by \$39,000 for a rescission enacted by Section 1403 of the FY 2001 Consolidated Appropriations Act.

^d Original appropriation was \$25,000,000. This was reduced by \$159,000 for a rescission and by \$567,000 for the Weapons Activities general reduction enacted by P.L. 108-7, FY 2003 Omnibus Appropriations Act, Title VI. The appropriation was further decreased \$134,000 by a reprogramming.

^e The FY 2004 appropriated amount has not been adjusted for the FY 2004 Congressional Omnibus Appropriations Bill rescission of .59 percent.

3. Project Description, Justification and Scope

The Highly Enriched Uranium (HEU) Materials Facility will support the consolidation of long-term highly enriched uranium materials into a state-of-the-art facility. The new facility will result in cost savings and an increased security posture and will feature: storage in a hardened concrete structure for enhanced security, new Safe Secure Trailer (SST) or Safeguard Transport (SGT) shipping/receiving station, a central location near HEU processing facilities, that includes a small administrative area to house the building operators. This facility will be located in a Protected Area. The Program Requirements Document for the Y-12 National Security Complex HEU Materials Facility, DOE/ORO-2113 Rev.1, documents the minimum storage requirements of 24,000 containers.

The Y-12 National Security Complex Environmental, Safety, and Health (ES&H) Vulnerability Assessment, dated October 1996, resulted in a number of findings related to the current storage of HEU in multiple buildings. The assessment raised issues concerning fire, flooding, natural phenomena, and related concerns that would likely involve major upgrades to existing facilities in order to continue present HEU storage. In addition to ES&H vulnerabilities, existing conditions are inefficient. Maintaining and expanding HEU storage in multiple facilities involves increased security personnel, increased operations personnel, increased maintenance and utility costs, increased Special Nuclear Material (SNM) vehicle transfers, increased cost for ES&H, facility safety assessments and upgrades, and management oversight. Costs for HEU storage will be reduced by implementing this initiative. Cost savings are achieved by reduced personnel requirements, by the efficient use of space and technology, by reduction of the footprint, and by eliminating the necessity for creating additional storage in the old facilities.

This project will provide the following:

- Receipt and storage for Canned Sub-Assemblies (CSAs) as well as cans of uranium oxide and metal
- Docks for SST/SGT shipping/receiving
- A small administrative area inside the facility.

The life expectancy of the facilities is 50 years, thereby assuring a viable, long-term HEU storage capability to support the enduring weapons stockpile and strategic reserve for the foreseeable future.

The facilities will be designed to meet Conduct of Operations requirements, minimize the number of personnel required for operations, and meet DOE requirements for SNM accountability and control.

FY 2005 funding will be utilized to continue facility construction activities.

Project Milestones:

FY 2002:	A-E Work Initiated	4Q
FY 2003:	Physical Construction Started	2Q
FY 2004:	A-E Work Completed	1Q
	Facility Construction Started	2Q
FY 2007:	Physical Construction Completed	1Q
	Startup testing	4Q
	Operational Readiness Review Completed	4Q
FY 2008:	Project Closeout and Begin Operations	3Q

4. Details of Cost Estimate

(dollars in thousands)		
	Current Estimate	Previous Estimate
Design Phase		
Preliminary and Final Design costs (Design Drawings and Specifications)	19,802	17,610
Design Management costs (.5% of TEC)	1,108	1,095
Project Management costs (1.8% of TEC)	3,731	3,778
Total, Design Costs (11.6% of TEC)	24,641	22,483
Construction Phase		
Buildings ^a	107,442	0
Other Structures	0	102,688
Utilities ^a	5,842	0
Special Equipment ^a	11,325	0
Inspection, design & project liaison, testing, checkout & acceptance (2.7% of TEC)	5,698	0
Other Program Activities ^b	4,313	9,222
Construction Management (6.3% of TEC)	13,393	10,329
Project Management (3.3% of TEC)	7,094	8,616
Total, Construction Costs (73.2% of TEC)	155,107	130,855
Contingencies		
Design Phase (.4% of TEC)	756	4,497
Construction Phase (14.8% of TEC)	31,394	26,165
Total, Contingencies (15.2% of TEC)	32,150	30,662
Total, Line Item Costs (TEC) ^c	211,898	184,000

^a Previous data sheets for this project combined costs for Buildings, Utilities and Special Equipment under the Other Structures category. This data sheet correctly reflects the proper cost categories.

^b Includes FSAR, CAAS Programming, UCNI Security and Project Documentation.

^c The annual escalation rates assumed are based on forward pricing rates for BWXT labor and approved DOE annual escalation rates for other costs.

5. Method of Performance

Overall project direction and responsibility for this project resides with the NNSA. The NNSA has assigned day-to-day management of project activities to the Y-12 Operating Contractor, BWXT Y-12. BWXT Y-12 completed Conceptual Design of this project utilizing site forces, and has performed initial site readiness and partially completed site preparation activities. Preliminary and detail design for this project was performed by an architectural engineering firm under subcontract to BWXT Y-12. With completion of design, construction and initial component and system testing will be performed via a fixed price construction subcontract to BWXT Y-12. Specialty systems and equipment designed by BWXT Y-12 will be procured by BWXT Y-12 and provided for installation by the construction subcontractor. BWXT Y-12 will perform final connection of the facility to existing plant security and support systems. Following construction, BWXT Y-12 will perform integrated system testing and startup testing of the facility. The NNSA will provide oversight and review of the entire project process, and will perform an Operational Readiness Review at the completion of the project prior to authorization of the facility to begin operations.

6. Schedule of Project Funding

(dollars in thousands)						
	Prior Years	FY 2003	FY 2004	FY 2005	Outyears	Total
Project Costs						
Facility Costs						
Design	1,242	19,406	4,749	0	0	25,397
Construction	0	574	24,927	53,981	107,019	186,501
Total, Line Item TEC	1,242	19,980	29,676	53,981	107,019	211,898
Other Project Costs						
Conceptual design cost a	1,925	0	0	0	0	1,925
Other project-related costs b	17,275	2,675	1,686	1,031	14,708	37,375
Total Other Project Costs	19,200	2,675	1,686	1,031	14,708	39,300
Total Project Cost (TPC)	20,442	22,655	31,362	55,012	121,727	251,198

^a A Conceptual Design Report (CDR) and its addendum were completed in FY 2001 at an estimated cost of \$1,925,000.

^b Other project-related prior year costs include \$7,010,000 in FY 2000 and \$4,125,000 in FY 2001 and \$6,140,000 in FY 2002.

Activities supported with this funding include: selection of AE subcontractor and RFP preparation, storage system development, criticality safety evaluations and preparations of technical safety basis documentation, Preliminary safety analysis report, vulnerability analysis, Hazardous Materials Evaluation, preparation of the PEP, design criteria, acquisition plans in support of issuing CD-1, site characterizations, operations support, preparing a waste management plan, finalizing plans for CD-1, site planning and investigations, independent project assessments, ORR support, DNFSB support, and project management and project support.

Costs for moving material into the new facility is not included.

7. Related Annual Funding Requirements ^a

(FY 2009 dollars in thousands)

	Current Estimate	Previous Estimate
Annual facility operating costs ^b	1,050	1,050
Facility maintenance and repair costs ^c	1,650	1,650
Programmatic operating expenses directly related to the facility ^d	5,900	5,900
Other costs ^e	400	400
Security Forces ^f	0	0
Total related annual funding (operating from FY 2009 through FY 2058)	9,000	9,000

^a These costs are from the cost/benefit analysis for the defense-in-depth design concept.

^b Operating costs are the costs of managing the facility.

^c Facility use costs are combined with the facility maintenance and repair costs.

^d These are the costs for receipt, storage, and inventory of the contents.

^e Other costs include the ES&H costs for keeping the facility compliant.

^f Security forces are funded as a part of the overall site security budget.

99-D-127, Stockpile Management Restructuring Initiative Kansas City Plant, Kansas City, Missouri

Significant Changes

- The project baseline was formally changed to incorporate adjustments to project scope (reutilized office space, retained vacated space, and inclusion of a Class 100 Mechanism Assembly cleanroom), the FY 2003 rescission and general reduction, and project efficiencies resulting in reduced project contingency requirements. This data sheet provides the new baseline that reflects the following changes:
 - Total Project Cost (TPC) was reduced by \$3,061,000 from \$138,950,000 to \$135,889,000.
 - Total Estimated Cost (TEC) was reduced by \$2,671,000 from \$120,420,000 to \$117,749,000.
 - The planned FY 2005 request of \$1,696,000 was deleted because it is no longer required to complete the project.

1. Construction Schedule History

	Fiscal Quarter				Total Estimated Cost (\$000)	Total Project Cost (\$000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 1999 Budget Request (<i>Preliminary Estimate</i>).....	1Q 1999	2Q 2004	3Q 1999	3Q 2006	122,500	139,500
FY 2000 Budget Request	2Q 1999	3Q 2004	3Q 1999	2Q 2005	119,500	139,700
FY 2001 Budget Request	2Q 1999	3Q 2004	3Q 1999	2Q 2005	122,400	141,600
FY 2002 Budget Request	2Q 1999	3Q 2004	3Q 1999	2Q 2005	122,201	141,401
FY 2003 Budget Request (<i>Performance Baseline</i>).....	2Q 1999	3Q 2004	3Q 1999	4Q 2005	120,420	138,949
FY 2004 Budget Request	2Q 1999	3Q 2004	3Q 1999	4Q 2005	120,420	138,950
FY 2005 Budget Request (<i>Current Baseline</i>).....	2Q 1999	3Q 2004	3Q 1999	4Q 2005	117,749	135,889

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
1999	13,700	13,700	153
2000	16,935 ^a	16,935	12,385
2001	23,514 ^b	23,514	24,017
2002	22,200	22,200	18,035
2003	28,925 ^c	28,925	33,006
2004	12,475 ^d	12,475	16,000
2005	0 ^e	0	14,153

3. Project Description, Justification, and Scope

The end of the Cold War radically changed the defense posture of the United States, calling for significant changes and reductions in nuclear weapons complex structure and operations. The initial phase of this retrenchment began when the Department of Energy decided to cease nonnuclear production at three plants and consolidate most of its nonnuclear manufacturing at the Kansas City Plant (KCP). However, even with the influx of new missions, the downturn in defense production meant continued reductions in operating costs and work force.

The Stockpile Management Restructuring Initiative (SMRI) provides a cost-effective plan that capitalizes on the KCP logistic and manufacturing expertise to ensure quality nonnuclear products through the year 2010 and beyond. Furthermore, the initiative minimizes NNSA costs in the near term by lessening risks and reducing operating expenditures concurrent with capital investments. It also provides the technical capability, production capacity, and flexibility necessary to allow the KCP to support scheduled nonnuclear production and a wide range of unanticipated production requirements, confidently and effectively.

^a Original appropriation was \$17,000,000. This was reduced by \$65,000 for the FY 2000 rescission enacted by P.L. 106-113.

^b Original appropriation was \$23,765,000. This was reduced by \$199,000 by the Safeguards and Security (S&S) Amendment (the comparable S&S amount for FY 2002 for this project was \$142,000; the comparable appropriation amount was \$16,793,000). The appropriation was further reduced by \$52,000 for a rescission enacted by Section 1403 of the FY 2001 Consolidated Appropriations Act.

^c Original appropriation was \$29,900,000. This was reduced by \$190,000 for a rescission and by \$678,000 for the Weapons Activities general reduction enacted by P.L. 108-7, FY 2003 Omnibus Appropriations Act, Title VI. The appropriation was further decreased \$107,000 by a reprogramming.

^d The FY 2004 appropriated amount has not been adjusted for the FY 2004 Congressional Omnibus Appropriations Bill rescission of .59 percent.

^e Planned appropriation was \$1,696,000. This was reduced to \$0 because it is no longer required to complete the project.

The SMRI will allow the KCP infrastructure to be altered and greatly reduced from the current plant profile, substantially reducing costs to operate the KCP. The restructuring initiative consists of changing the existing plant and operational approach in four major aspects: 1) physically reducing the size of the facility, 2) changing the approach to manufacturing from product-based to process-based, 3) reducing the support infrastructure appropriate for the right-sized operation, and 4) further streamlining the organizational structure to focus directly on the core-manufacturing mission.

Currently, the KCP consists of approximately 3.1 million square feet of floor space contained in three connected buildings: the main building, the Manufacturing Support Building (MSB), and the Technology Transfer Center (TTC). Much of the floor space is underutilized and costly to maintain. The SMRI project is responsible for vacating approximately 409,000 square feet. The KCP will be rearranged into three business units and a support operations business unit to bring about an overall reduction in total managed floor space, streamline operations, and produce increased long-term operating efficiencies in manufacturing processes. The approximate square footage of each business unit after consolidation is as follows:

	<u>Square Ft.</u>	
Electrical Products Business Unit	236,000	
Mechanical Business Unit	350,000	
Engineered Materials Business Unit	198,000	
Support Operations Business Unit	1,224,000	
Unallocated and Unusable	<u>695,000</u>	(includes aisles, restrooms, and utility setbacks)
Total	2,703,000	

The SMRI project supports the implementation of process-based manufacturing by consolidating similar operations into three business units and one support operations unit. These business units are established according to the various electronic, mechanical and engineering materials technologies and processes. The Support Operations unit encompasses the remaining functions. Unless otherwise noted, all of the areas within these business units are impacted by the SMRI project.

· **Electronics Products Business Unit (EPBU) Technology Overview**

The electronics products factory includes three process modules: microelectronics, interconnects, and final assembly. Each electronic process module will fabricate all product lines that require the processes of that module. In addition to the three process modules, there will be three manufacturing areas for specialized products: Joint Test Assembly (JTA), Special Electronic Assembly (SEA), and Test Equipment.

The three process modules are discussed below.

- **Microelectronics:** All substrates, hybrid microcircuits, chip packages, and leadless chip carriers that require clean room processing are fabricated in the state-of-the-art microelectronics module. The module is located in the new microelectronics facility, which was completed in June 1995 and became fully operational in September 1998 (not impacted or part of the SMRI project).

- **Interconnects:** The interconnects module contains the manufacturing of round-wire cables, flat flex cables and junction boxes. These are used to attach and interconnect components. The only two processes affected by SMRI are flat-flex cable and junction box manufacturing.
- **Final Assembly:** The fabrication of complete electronic systems is performed in the final assembly module. This consists of the assembly and encapsulation of all components required for complete electronic products. Procured components, printed wiring assemblies, and manufactured hardware are assembled to produce complete electronic systems such as radars, programmers, trajectory sensing, and firesets.

· **Mechanical Business Unit (MBU) Technology Overview**

The MBU will consist of 14 modules, which will fabricate or procure all required product lines. This is a process-based approach for most mechanical technologies, complemented by generic product-based manufacturing departments, mechanical support laboratories, and engineering services as follows:

- **Mechanical Welding:** Mechanical Welding is a process-based activity group providing welding mechanical hardware and welding operations in common support of factory operations. The in-place consolidation will combine operations, which currently exist in Welding Operations, Interim Reservoir Welding, Model Shop and Tool Room, and the Mechanical Welding Laboratory.
- **Sheet Metal and Mechanical Assembly:** The sheet metal fabrication assembly area will provide common support for a range of mechanical and electromechanical products, and includes typical sheet metal processes as well as laser marking.
- **Electromechanical Assembly:** Electromechanical Assembly will be restructured in a downsized and consolidated operation to provide support of stronglinks and other miniature assemblies which have design features that include miniature solenoids, ceramic electrical headers, miniature springs, friction reducing coatings and bearings, low resistance electrical contacts, magnetically coupled switching, and a host of other unique designs. Most miniature mechanisms require assembly in a class 100 clean environment, utilizing clean benches within a class 100,000 clean room. In addition, the new generation of mechanisms require assembly in a Class 100 clean room. The Class 100 clean room provides the environment and capacity to support WR production and quality requirements.
- **Heat Treating and Abrasive Blasting:** The heat treat and abrasive blasting areas provide service for all mechanical product lines. Included in the relocation of the Heat Treat department is the replacement of a portion of the furnaces and support equipment, which will not survive the relocation due to their poor condition. The structural integrity of the furnaces being replaced is very poor and modifications would be required to refurbish firebrick and heating elements and the equipment may not survive the relocation. Due to the large size of these furnaces and the criticality of this equipment as a unique capability, new furnaces will be procured and installed in the new location prior to excess of the old equipment.
- **Mechanical Machining:** Mechanical machining and inspection will be a downsized and consolidated operation that will fabricate hardware through traditional and non-traditional means in sizes ranging from large case-type housings to miniature piece parts for assemblies. The machined hardware provided by this module would support requirements of all programs at KCP for both internal and external customers.

- **Reservoir Fabrication and Assembly:** Reservoir production responsibility was transferred from the NASA's Rocky Flats Plant to the KCP through the nonnuclear reconfiguration program. Because of special handling, cleaning and contamination considerations associated with reservoir production, KCP's reservoir facility contains most processes necessary to manufacture, test, and inspect a wide variety of production reservoirs. SMRI implementation will not change the Reservoir facility.
- **OST Products Manufacturing:** The Office of Safeguard and Transportation and (OST) Products Manufacturing supports the secure transportation needs for the DOE Secure Transportation Asset including refurbishment of existing trailers, original manufacture of the new design Safeguards Transporter Trailer (SGT) and multiple short-term special maintenance activities. The OST manufacturing area will be consolidated by combining the secure trailer sheet metal area with the primary SGT assembly facility.
- **Mechanical Support Laboratories:** Support laboratories for Mechanical Operations will continue to provide the current types of support, though in a smaller footprint through consolidation.
- **Plastics Molding & Filled Elastomers:** This area supports injection, compression, and transfer molding of thermoset and thermoplastic compounds, and material preparation and compression molding of filled elastomeric products.
- **Foam Products:** Foam Products is a process-based approach, which has combined equipment needed for fabrication of rigid polyurethane foams, filled elastomer foams and foam desiccant product lines.
- **Plastics Machining, Assembly & Inspection:** In the Plastics Machining, Assembly & Inspection module, the manufacturing and machining of all Special Plastics Case Assemblies and Subassemblies, Gas Getters, Composites, and all other plastic products and the related inspection of these products will be consolidated. This consolidation allows for some enhanced utilization of floor space and equipment.
- **Plating & Painting:** These two process modules provide custom metal finishing services to the entire plant. These two operations are not impacted by the SMRI project.

· **Engineered Materials Business Unit (EMBU) Technology Overview**

The engineered materials factory consists of four processing modules as follows:

- **Model Shop and Tool Room:** The Model Shop and Tool Room is a support organization that will provide prototype and evaluation hardware, tool and gage fabrication and maintenance, special grinding of cutting tools, and limited tool design in support of unique and short-cycle time needs of production operations. This area will not be impacted by SMRI.
- **Engineering Laboratories:** The Engineered Materials Business Unit contains several large laboratories. Only the Nuclear Grade Steels Receiving and Inspection, and Non-Destructive Test Labs will be affected by SMRI. The other Engineering Laboratories will remain unchanged.
- **Engineering Services:** The Engineered Materials Business Unit provides document control, drafting, and other support services for the other business units. These functions are primarily office areas, and are not modified in the SMRI project.

- **Metrology:** Metrology provides calibration services to the plant and will not be modified under SMRI.

· **Support Operations Technology Overview**

Support operations includes boilerhouses, waste management operations, patrol headquarters, stores (including enduring stockpile), maintenance, cafeteria, office and other functions that are essential for plant operations. Included under this function is the physical plant separation work for walls and utilities and security guard support during construction. Also included is the construction and relocation of a downsized cafeteria. These functions, generally placed in the category of support, are common to plant operations and are not assigned to a specific factory.

- **Physical Plant Separation:** Maximum Foreseeable Fire Loss (MFL) rated separation between the NNSA and GSA will be provided by construction of fire rated subdivision walls. Major air handling and utilities systems serving both NNSA and GSA will be separated to allow for independent maintenance of these services on both sides of the separation line after the SMRI project is complete.
- **Stores:** Stores' areas will be consolidated and reduced in number. Gages and fixtures, chemicals, and some of the production and non-production stores areas will remain in their current locations. Bulk materials and large production and non-production areas will be relocated and resized to meet future stores requirements. This bulk storage area will be located in a high-roof, unexcavated area of the plant, which is adjacent to a new high-rack storage area.

Project Milestones:

FY 1999:	A-E Work Initiated	2Q
	Physical Construction Started	3Q
FY 2004:	A-E Work Completed	3Q
FY 2005:	Physical Construction Completed	4Q

4. Details of Cost Estimate

(dollars in thousands)		
	Current Estimate	Previous Estimate
Design Phase		
Preliminary and Final Design Costs (Design Drawings and Specifications)	6,525	6,971
Design Management Costs (2.7% of TEC)	3,212	1,046
Project Management Costs (0.2% of TEC)	205	349
Total Design Costs (8.4% of TEC)	9,942	8,366
Construction Phase		
Buildings	37,880	39,460
Standard Equipment	43,008	42,379
Inspection, Design and Project Liaison, Testing, Checkout and Acceptance	2,661	2,812
Construction Management (5.0% of TEC)	5,861	6,189
Project Management (6.8% of TEC)	7,961	7,917
Total Construction Costs (82.7% of TEC)	97,371	98,757
Contingencies		
Design Phase (0.4% of TEC)	496	1,043
Construction Phase (8.4 % of TEC)	9,940	12,254
Total Contingencies (8.9% of TEC)	10,436	13,297
Total, Line Item Costs (TEC)	117,749	120,420

5. Method of Performance

Design and inspection are performed under a KCP negotiated architect-engineer contract. Construction will be accomplished either by fixed-price contract awarded after competitive proposals or by cost plus incentive fee contracts. All contracts will be administered by Honeywell.

Best value contracting methods will be used for design and construction services.

6. Schedule of Project Funding

(dollars in thousands)

	Prior Years	FY 2003	FY 2004	FY 2005	Outyears	Total
Project Cost						
Facility Cost						
Design.....	8,696	1,742	0	0	0	10,438
Construction.....	45,894	31,264	16,000	14,153	0	107,311
Total, Line Item TEC.....	54,590	33,006	16,000	14,153	0	117,749
Total, Facility Costs (Federal and Non-Federal)...	54,590	33,006	16,000	14,153	0	117,749
Other Project Costs						
Conceptual Design Costs	1,000	0	0	0	0	1,000
Other Project-Related Costs	10,959	1,611	450	2,120	2,000	17,140
Total, Other Project Costs	11,959	1,611	450	2,120	2,000	18,140
Total, Project Cost (TPC).....	66,549	29,542	16,450	21,349	2,000	135,889

7. Related Annual Funding Requirements

(dollars in thousands)

	Current Estimate	Previous Estimate
Annual Facility Operating Costs ^a	3,700	3,700
Annual Facility Maintenance/Repair Costs	5,400	5,400
Programmatic Operating Expenses Directly Related to the Facility	9,374	9,374
Total Related Annual Funding (Operating from FY 2005 through FY 2034)	18,474	18,474

^a Estimated life of project-30 years.